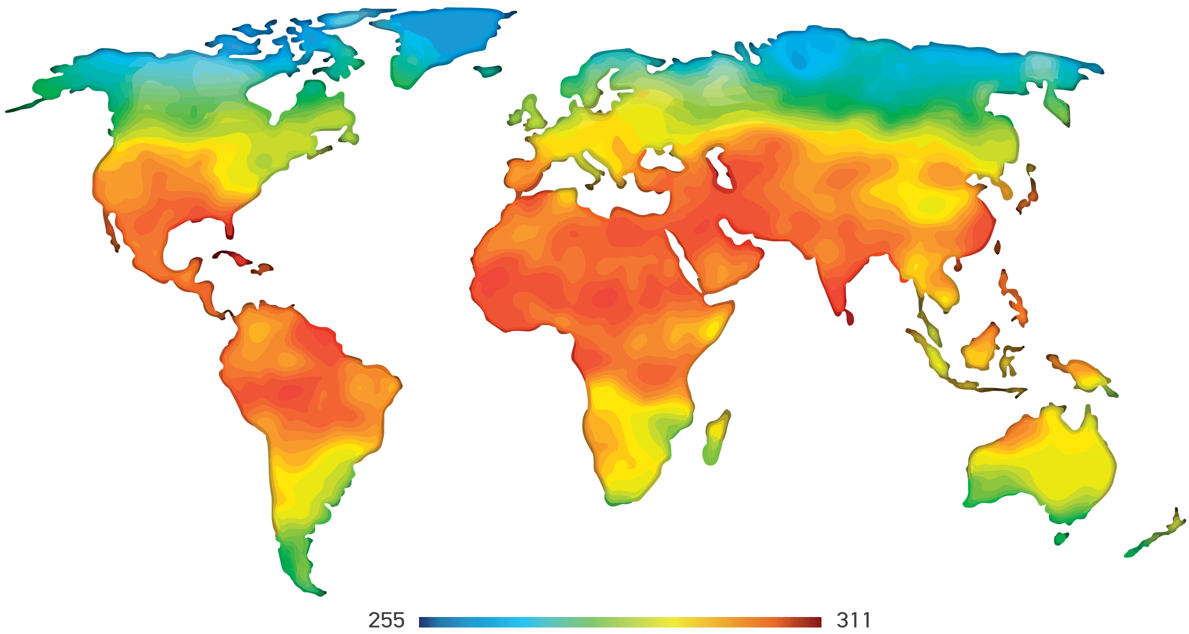
NEOKEM Cool Paints

Advanced Technology for Functionality – Aesthetics & Well-being

NEOKEM
color performance

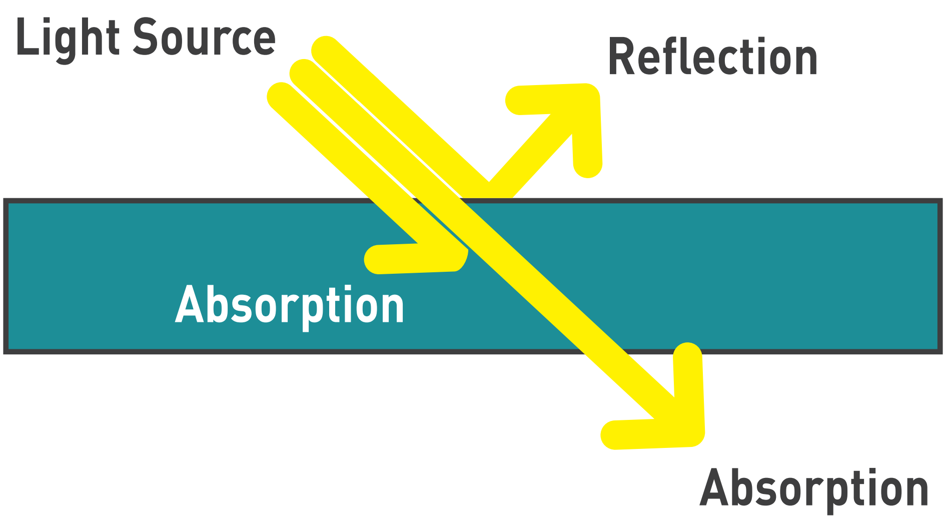
What is the challenge?

Intense solar radiation—particularly in the infrared (IR) spectrum—strikes medium or dark-colored surfaces and transfers its energy, which is then converted into heat, increasing the surface temperature.



Map showing Earth's infrared radiation (Kelvin).

In Mediterranean countries, such as Greece, during the hot months, which are now extended due to climate change, especially during midday, surface temperatures exposed to direct sunlight can reach or even exceed 80°C.
This significant rise in temperature is caused by intense solar radiation and the properties of materials that absorb and retain heat.



What are the results?

The high temperature caused by solar radiation energy leads to expansion, resulting in the well-known phenomenon of curvature.

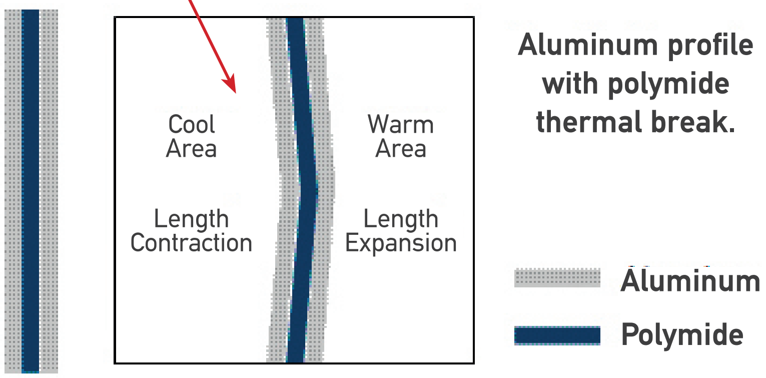
This phenomenon not only raises aesthetic issues but also functional problems in construction.

BEFORE

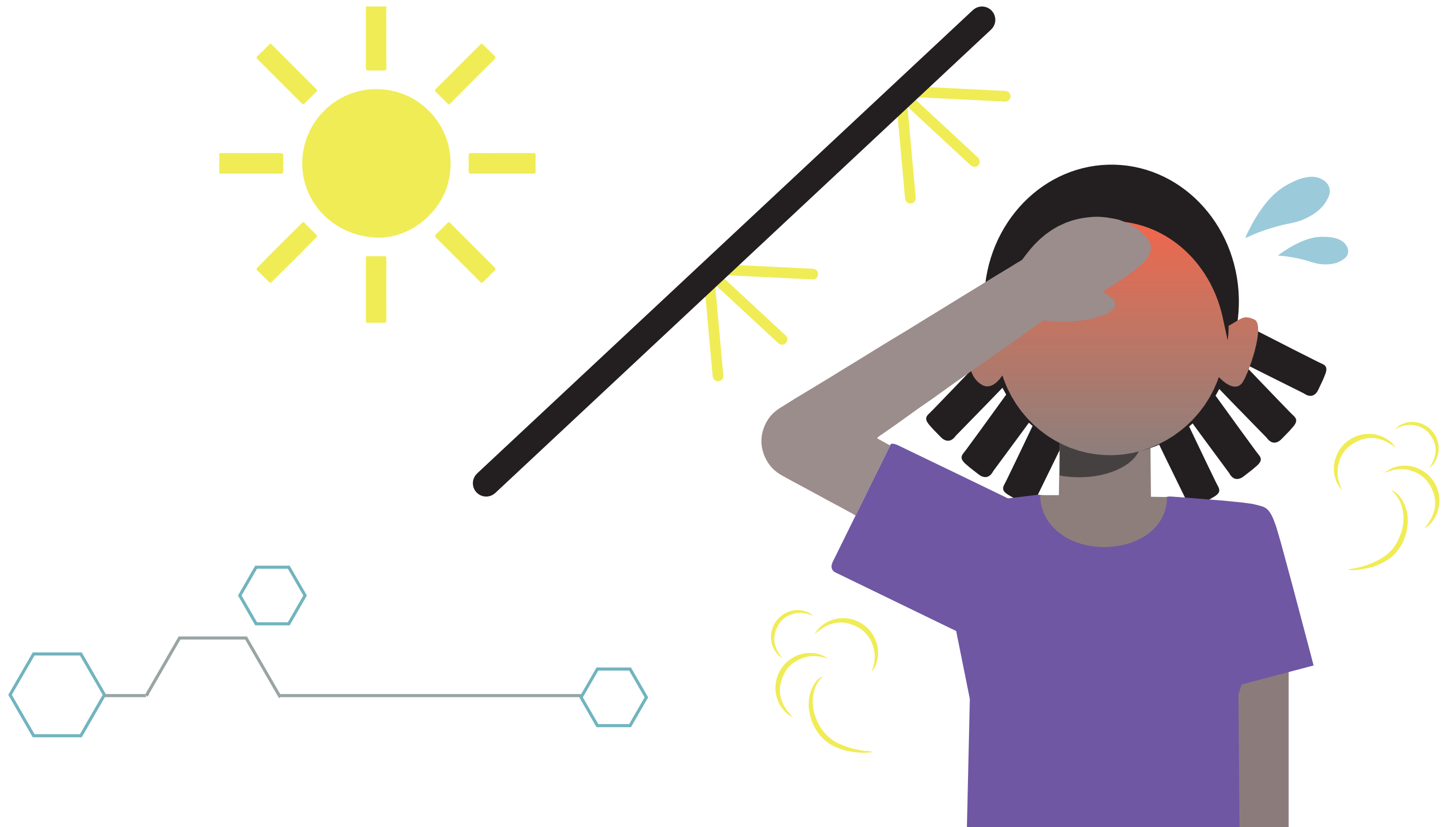
Initial length during design, where both sides are at the same temperature.

AFTER

The curvature phenomenon.



Dark-colored surfaces not only absorb energy more rapidly, but also release it more quickly—an effect that undermines the thermal comfort intended by bioclimatic design, causing discomfort to those near the surface.



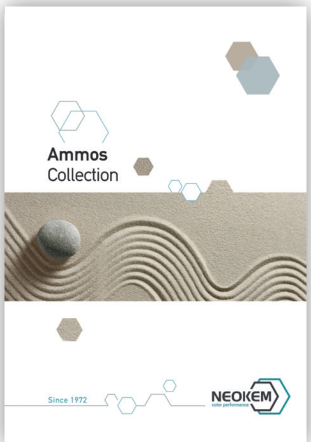
What are the proposed solutions?

To address this issue, the following alternative solutions are recommended for constructions exposed to solar radiation—such as shading systems, balcony doors, façades, and similar applications:

1. Use of light, pastel shades that are naturally reflective
   Examples of **super durable**, naturally reflective coatings by NEOKEM:

Ammos Collection
RAL 1013

Prisma Collection 818
RIVIERA VENICE



2. Use of reflective Cool coatings. Thanks to their special formulation, these coatings exhibit significantly improved performance due to their reflectance—especially in the infrared (IR) spectrum, which is primarily responsible for heat and the excessive temperature increase of surfaces (particularly dark-colored ones).
   Examples of NEOKEM's **super durable** reflective coatings:

Ammos Collection
RAL 9005 cool

Prisma Collection
520 Sahara Night cool

By applying one of the two alternative solutions, we achieve more efficient heat management and reduced thermal loads, thereby improving the building's energy performance, enhancing thermal comfort, and contributing to the user's overall well-being.

Main Applications

Reflective coatings can be applied to various constructions, such as:

- Façades
- Shading Systems / Pergolas / Atriums
- Aluminum Doors & Windows
- Building Exterior Cladding Systems (Cladding)
- Railings
- Roller Shutters

Benefits of Cool Paints

NEOKEM's reflective coatings are certified with the international quality label **Qualicoat, Class 2** and offer unique benefits, such as:

- Improved energy efficiency
- Enhanced functionality of the construction
- Increased durability over time
- Thermal comfort & user well-being

QUALICOAT
Inspired by architecture, trusted by professionals
P-No. 0780

QUALICOAT
Inspired by architecture, trusted by professionals
P-No. 1653

EPD®
THE INTERNATIONAL EPD® SYSTEM

HEADQUARTERS:
95, Ag. Georgiou Str.
GR 194 41 Koropi Attiki
Greece, P.O. BOX 143
Tel: +30210 6626860
e-mail: info@neokem.gr

For more info about our sales network
you may visit **www.neokem.eu**

Visit www.neokem.eu for more information about our sales network and to download BIM objects from the Prisma Collection and learn more about the benefits of super durable colors.

neokem.eu

NEOKEM
color performance