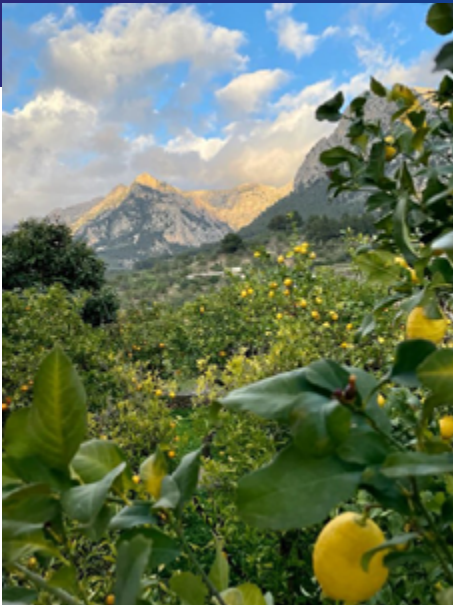


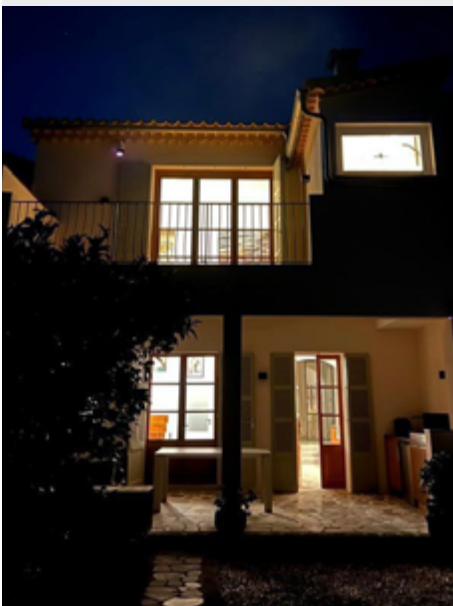
The science of a cosy winter

How high-performance paints with 3M™ Glass Bubbles give walls a warm and pleasant feel-good touch and thus help to save energy.



Spring is just around the corner and the first winter is over, for our historic townhouse in Sóller which had been renovated in 2021 with special paints that contain 3M™ Glass Bubbles. Despite moderate temperatures which very rarely fall below 0 °C, Mallorca is often wet and cold, with high relative humidity which feels uncomfortable, especially in the wintertime.

When choosing the right materials for renovation, subjective well-being in the cold season was also an important factor. Paints with 3M™ Glass Bubbles not only do something amazing when reflecting solar radiation, they also create a so-called “warm-touch” effect and due to their thermally insulating properties, sustainably reduce the formation of cold bridges.



Feel-good factor put to the test:

even in winter, the owners were always in their house on a weekly basis, so that the indoor climate could also be subjected to a close examination in winter.



According to energy experts, a room temperature reduced by only 1° C offers up to **6 %** savings in energy cost.*

“This house has very high feel-good values, even if it is rainy and cold outside. So, we have more than just a holiday property for the summer ... even a room with three exterior walls in a ledge has shown no cold spots in winter.”

-Petra Groening
Owner of Casa Escondida



Where does the “warm-touch” effect come from?

The contact temperature of two bodies is determined by the heat penetration coefficients of both substances – or in other words: the heat penetration coefficient determines how warm or cold a surface feels when touched by hand. Metal, for example, feels colder than wood, even if both materials have the same temperature.

The microscopic glass bubbles in the wall paint lower the heat penetration coefficient so that the wall feels evenly warm. In addition, the thermal insulating hollow glass spheres reduce cold bridges that could cause local condensation of air humidity. This creates a pleasant and comfortable feeling in the room.

For example, 3M™ Glass Bubbles used in interior paints help to reduce cold bridges and thus significantly reduce the condensation of moisture and the risk of mould formation. This is a common problem when renovating old buildings, especially when new windows are installed that prevent air circulation or real estate is not used continuously.



The property

Casa Escondida in Sóller, Mallorca.



Challenge

To make a property, although it is not permanently inhabited, still mould-safe for use throughout the year and with the highest feel-good factor.



Solution

Maxit Solance was chosen for its unique features providing important feel-good properties.



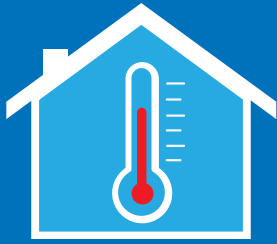
Insight

This high performance paint containing 3M™ Glass Bubbles inhibits the growth of mould and creates a higher wall temperature.



Why 3M™ Glass Bubbles

These microscopically small hollow spheres made of borosilicate glass are light and yet very resistant and therefore can be the ideal filler for high-quality interior and exterior paints.



Avoid cold bridges – save energy

At cold bridges, an increased heat outflow can be observed, which leads to higher heating energy consumption. Cold surfaces are perceived as uncomfortable due to the lower radiant heat, unevenly warm or cold surfaces increase convection. The resident also perceives this as unpleasant. To remedy this circumstance, the heating is often set higher so that the room air becomes warmer. In this way, the heating energy consumption increases additionally. This additional energy expenditure can literally be saved with the help of the higher and more uniform wall temperature caused by the glass bubbles. According to energy experts, a room temperature reduced by only 1°C offers up to 6 % savings in energy cost.*

For more information visit [3m.co.uk/GBinConstruction](https://www.3m.co.uk/GBinConstruction) or [maxit.de](https://www.maxit.de)

* Source: <https://www.test.de/Serie-Energie-sparen-Teil-4-Heizkosten-Reduzieren-ohne-frieren-1734645-0/#:~:text=Wenn%20die%20Temperatur%20nur%20um,5%20und%2010%20Euro%20liegen.>

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