

White Walls are Cooler in a Heatwave



The colour of your house effects how hot it gets; white walls reflect more heat

I live in a Cambridge Edwardian terrace and opposite there are 5 pairs of adjacent houses: each has one home with a plain brick front wall and one with white-painted brick. They are otherwise very similar.



The thermal image above was taken in August 2022 when the sun faced the front walls. It shows that the plain brick surfaces on the left averaged 50.1°C while the white-painted brick was 35.8°C , so the brick surface was about 14.3° hotter than the white.

Fortunately the rooms inside won't reach these temperatures, but as the walls warm through, those with plain-brick walls will be noticeably hotter. This will become more serious if the heatwave lasts several days and the tons of brick in the wall heat through.

The shade of white makes a noticeable difference. For the other 4 pairs of houses the Brick-White temperature difference varied from 12.8°C with a greyish white to 19.2°C with the brightest white.

White walls and often white roofs are normal in Mediterranean architecture, along with external shutters, also seen a bit in Cambridge, as below:



I suggest homeowners, architects, painters, planners and developers need to work together to normalise this in UK, in readiness for the more extreme heatwaves to come.

If you'd like to paint your sunny brick walls white and you also have an older house, remember it was probably designed to be breathable, allowing any moisture in the wall to escape. So it's good to use a breathable white paint like [Earles Masonry Paint](#). See [this explanation](#).

A bigger effect for the sunny rooms above was probably keeping the sun out with white blinds or curtains, as mostly used in the first photo. The sky-lights would benefit from external anti-heat blinds, like [these from Velux](#), that are easy to retrofit. If the sky-light is out of reach inside, you could fit a [solar-powered remote-operated version](#). Other sky-light suppliers have their own blinds.

External Shutters or [awnings](#) that prevent the sun reaching the windows are more effective than internal white blinds or curtains, although these are still well worth fitting. Shutters and awnings are probably not allowed on the street-side of this [conservation area](#).

Tom Bragg, Cambridge Carbon Footprint Trustee and Thermal Imaging Manager

For more practical information, join us for '[Cool Homes in a Heatwave](#)', a free online talk on **Mon 5 Jun 2023, 7:00 – 8:30pm**. Booking essential.

📅 May 11, 2023 ⌚ 4:33 pm
