

# People in glass houses

Stop blaming me about glass boxes, says the *Grand Designs* guru. Plus tips on how to reduce the rays



Some people have had to tape foil on their glass homes to keep temperatures inside down. Inset: Kevin McCloud

## Jayne Dowle

“Oh, Kevin, how could you do this to us,” the middle-classes said as record-breaking temperatures rocketed past 40 degrees in London and the southeast last week. Millions of homeowners were cursing the star of the world’s most famous self-build show. Apparently, if it were not for Kevin McCloud and *Grand Designs*, the programme (in its 23rd year with a new series starting at the end of August), which brought the “glass box”, beloved by mid-20th century architects such as Mies Van Der Rohe and Le Corbusier, to the Great British Public, we wouldn’t be sweltering half to death, plastering the bifolds

with bits of tin foil and wishing we had kept the back of the house bricked up.

One woman in Derby, who wishes to remain anonymous, installed bifolds last autumn, and was enjoying them until the mercury started to climb. “I had to tape aluminium foil on to the doors to keep the sun out,” she says. “I got the idea from that scene in the new Elvis film. It has helped, but it was time-consuming and horrible to look at. But I have pets and it would be way too hot with the sun shining through all day.”

Doing the rounds were tales of desperately sweaty, suffocating owners plastering their expensive expanses of glass — the average cost of an

aluminium bifold door is £3,825, plus fitting from £900, according to Checkatrade — with copies of *Private Eye* and suspending blankets with hastily driven in nails, blighting even the leafiest of suburbs with squatter-style chic.

“People were building with glass a long time before I was around,” says McCloud, 63, speaking from his loftily cool Herefordshire home — which has no bifold doors. “I think the patented method of producing very large sheets of pure float glass was perfected in the 1950s and 1960s. I was one year old then so don’t blame me.”

That hasn’t stopped the great glass divide. Surely his signature self-build series encouraged people to promote aesthetics over technicalities and foster the cult of the “glass box”? Enter endless copycats bolting bifolds on to the back of their poorly insulated homes, ending up with an extension that’s freezing in February and far too hot in August.

“We film modern architecture in all its forms [on *Grand Designs*]. Some of that has large windows and some of that has small windows ... We promote good things. We have no agenda to promote ... bifold doors. We just show what’s happening. All television [does] is to hold a mirror up to the world and say: ‘This is what you like. This is who you are.’”

According to McCloud:



“Adding a glass extension or bifolds without an overhanging shade is a bit like buying a car that’s got no brakes. Most people just think, ‘I’ll buy those bifold doors and get my builder to fit them,’ or ‘I’ll buy that sliding glass door and get my builder to fit it,’ or ‘We can do it ourselves.’ Actually, it is going to heat up because you have got to consider the wider picture, the engineering of the building and how it functions.

“I think the difficulty is most builders aren’t going to be fully across the performance of a building, how it looks after itself, how it’s ventilated and cooled and heated. A good environmental engineer can help design the building to function well. It’s not the glass that’s hot, it’s the fact that it lets sunlight in.”

McCloud’s immediate solution to soaring inside temperatures would be to add an awning in front of glazed areas. Many homeowners are only now catching up with the science. This month, Susan White, the group marketing director at Hillarys, a supplier of blinds and awnings, has seen a 239 per cent increase year on year in customers booking awning appointments. “The biggest rise is in Essex, Surrey and Kent at 539 per cent. So yes, the heatwave this week has impacted on this performance,” she says.

McCloud also likes to plant a tree. “It’s the natural way to create shade, but you will need



External shutters can be used to block the sun’s heat, such as those seen here from Caribbean Blinds  
JAHED QUDDUS

to choose a fast-growing one.” He suggests a silver birch, but not conifers, obviously.

He’s also keen to share a quick fix involving nothing more expensive or complex than a bucket of water. When he lived in Italy, he saw villagers dousing their front doorsteps with cold water. This cools the temperature of the perimeter of the house immediately, he explains. “Or I visited one architect, and he has a pond right up to his outside wall and a vent which he opened to let in fresh air, cooled by the water.”

Back to that glowering glass. “There are some options available for a retro-fit solution,” says Steve Bromberg, the managing director of Express Bi-Folding Doors. “Solar reflective glass can reduce the sun’s heat by up to 80 per cent, plus offer additional benefits such as reducing UV rays passing through the glass, which means less furniture fade, for example. If this type of glass hasn’t been supplied, then it is probably worth making the investment to upgrade the

glass — it might cost an extra £45 per square metre, so well worth considering for south-facing doors and windows. It’s also possible to put a solar reflective film over the glass, but this will spoil the light transitivity through the glass a little bit.”

Purlfrost makes “solar control film”, which comes in various forms, and is meant to reduce heat, excess glare and UV light. It can be added to glass retrospectively and removed, so is a useful option for renters. It costs from £25 per square metre. “As a result of the record-breaking heatwave, we’ve seen a 15 per cent sale increase for our solar control films,” says Emmanuel Baumard, one of the founders of Purlfrost. “We’ve especially seen a large portion of sales from major cities across the country, and in particular London. We noted this increase as weather warnings were announced and the country took action to manage the predicted heatwave.”

Rebecca Clayton, the marketing manager for IQ Glass, says she would also recommend specifying solar control coatings “within your glass specification for any large or south-facing elevations of glass. For any highly glazed spaces such as glass box extensions, solar control glass will reduce cooling costs in the long run, maintaining a comfortable living temperature all year round.”

The metal oxide coating is



applied to the internal face of the external glass panel within an insulated glass unit. The coating reduces the amount of short-wave radiation that can travel through the glass, which means it eliminates the risk of overheating, she explains. It comes at a cost of £75 per square metre on top of the cost of the glazing. “Solar control glass coatings can be applied to almost any glazing solution with an extremely subtle appearance that is not detectable to the human eye.”

Another idea is to install blinds. Express Bi-Folding Doors does internal blinds that sit inside the glass. “They are a viable option as they help to prevent the sun’s heat coming through the glass,” Bromberg says. “If you’re going to the expense of retrofitting internal blinds it would allow the opportunity to upgrade the glass at the same time as internal blinds would mean completely new glass is required.”

McCloud favours external shutters, especially if they are designed and built in as part of a new-build or big renovation. He cites Fred and Saffron Baker’s highly sustainable concrete-constructed “earth shelter” house in Derbyshire as an outstanding example. The house is set back into the hill, with south-facing windows designed to maximise the heat from the sun for solar gain, but with shutters that can be pulled across in extremes of temperature.



Solar control film can be added to windows to help to reduce heat, excess glare and UV light  
ALAMY

Shutters and brise soleils, slatted external architectural features that reduce sunlight into a building, are perhaps two of the most obvious ways we will adapt our homes to deal with the changing climate.

Stuart Dantzic, the managing director of the outdoor shading manufacturer Caribbean Blinds ([cbsolarshading.co.uk](http://cbsolarshading.co.uk)), says that as soon as the heatwave hit last week, his company saw a 155.56 per cent increase in inquiries, “which shows no signs of slowing down”, and a 76 per cent increase in orders, with customers requesting installation as soon as possible.

Demand has come from all over the UK, Dantzic says. “However, we have received more inquiries from the southeast, including London and the home counties, than areas north of Birmingham, for example. There have been spikes in inquiries from Kent, High Wycombe and Milton Keynes.”

He thinks external blinds are gaining in popularity

because blocking the heat before it reaches the glass is the most effective way to keep internal temperatures bearable “without the use of energy-hungry, carbon-emitting air conditioning”.

And this, McCloud says, is the huge irony about living in a glass box. While many homeowners say that they want vast expanses of glazing so that they can engage with nature, the sizzling side effect of super-hot internal temperatures means that unless they take action with some form of shading, they are likely to end up with no recourse but to install energy-guzzling air conditioning.

“What frustrates me is that you can take a glass box and nowadays put it anywhere on the planet. You can put it at the North Pole or in middle of the Sahara desert, and providing you put enough fossil fuel into that building, you will keep it cool in the Sahara and hot at the North Pole. And that’s our attitude. We build what we want and then we figure how to make it liveable by just putting more energy into it. The great trick with buildings is to make them work with nature. It’s ironic — do the glass wall because you want to see the garden. What’s out there can help you ... the shade, the ventilation, the tree, the bucket of water.”

You do realise you are going to increase the sale of buckets, Kevin? “Good, I’d rather increase bucket sales than I would glass.” ■

