Life Newsletter

Life Homes

Heat seekers: How do we insulate an old cottage?

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Q: WE live in an old stone-built house (1890s) and are currently planning a new extension to it. Keeping the existing house warm in the winter is becoming increasingly difficult. What options are available to us in terms of insulating our home? And what materials should we consider for the new extension?

A: When thinking of your home, consider it your second skin. Your skin is breathable and carries out several functions so why shouldn't your floors, walls and roof be doing the same for you? In dwellings this can be translated into the right choice of materials. On our island, moisture is one of the biggest features of our climate so let's embrace it instead of fighting it. Old buildings are great teachers for learning about naturally breathable and moisture-regulating materials.

In the case of your stone house, it is important to remove any cement concrete on the floors and walls to allow moisture to pass through freely. Cement, gypsum boards, plastic membranes and polyurethane insulations have no place here. Lime, clay, wood, sheep wool are some of the materials that regulate room humidity levels, absorbing and releasing moisture readily. Sheep wool is not only a great insulator it is also hygroscopic and able to purify the air in a room, for example, removing many odours and harmful substances such as formaldehyde. Many of these products carry out multiple functions to create healthy living environments, whilst also being ecologically sustainable products that don't leave mountains of waste for the next generations.

You can also use the same approach - treating your house as a living, breathing structure - in the new extension to your home by using similar natural materials which have been processed and improved by modern technologies. An example for a masonry wall is the monolithic clay Poroton block with a special honeycomb structure, which has breathability and thermal mass attributes. It eliminates the need for the onerous cavity, ties and fixing of polyurethane insulations as used in the ubiquitous cement concrete block walls.

If your new extension is going to be a timber-frame construction, wood-fibre tongue and grooved boards in combination with 100pc sheep wool insulation allows for vapour-permeable walls without plastic membranes. A product made from the glass recycling industry 'foam glass gravel' has been used successfully under buildings for insulation with additional structural functions, again simplifying the construction and eliminating the need for polymer products. Many of the suppliers of these natural products also have retro-fit solutions.

It is important to remember that value for money lies not in the cheapest product out there but in the product that performs numerous functions and benefits you most by creating a long-lasting healthy living environment. We don't know what a lot of these synthetic materials will do in the long run and what toxins they emit over time, so why not be safe and keep it natural?

A registered architect can advise you on the best insulation products and technologies for your home, check on riai.ie for a registered architect near you.

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