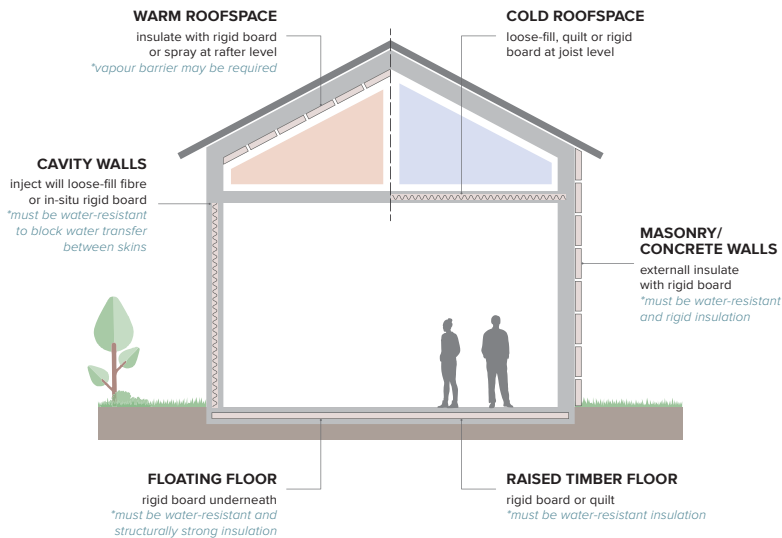


Building resilience to climate change

With erratic climate conditions becoming the norm, it's time for the built environment sector to innovate and implement adaptability in buildings set to be used in decades to come. **Simon Storer**, chief executive of the **Insulation Manufacturers Association (IMA)**, explains more about how the organisation is promoting 'resilient' design to prepare for the future.



NOTE: Where rigid board is used, in-situ sprayed cellular plastic is often also an option

NOTE: Radiant barriers can form a useful strategy in many applications where space is limited. However, maintaining sealed air gaps between and around all layers is essential for performance.

As the UK emerges from the disruption of the past 18 months, the health crisis has highlighted only too keenly, the importance of building-in resilience in preparation for future challenges.

This same approach is essential for the built environment as it adapts to the impending climate crisis, to ensure buildings are designed in advance of these changing conditions.

The recent publication entitled: 'Insulation for Sustainability,' produced by XCO2 for the IMA, promotes resilient design in relation to sustainability, and how it will futureproof our built environment for the challenges ahead.

Resilient design is defined by the Resilient Design Institute, as "the intentional design of buildings, landscapes and communities to adapt to changing conditions in order to maintain functionality".

Resilient design strategies are complementary to the objective of sustainability, and the two are mutually reinforcing. However, resilience aims to surpass sustainable and energy efficient design, addressing the relationship between urban development, disaster risk management, climate change and sustainability simultaneously, to provide elegant and enduring solutions to current and future challenges, through an assortment of traditional and innovative techniques.

"Using a fabric-first approach with the most appropriate, durable and resilient high-performance insulation, to guarantee low future energy demands and reduced associated carbon, is key to making our buildings resilient."

The world is changing and we must adapt in response. With more extreme climate events becoming the norm, it is crucial that our built environment is able to withstand long-term climate changes.

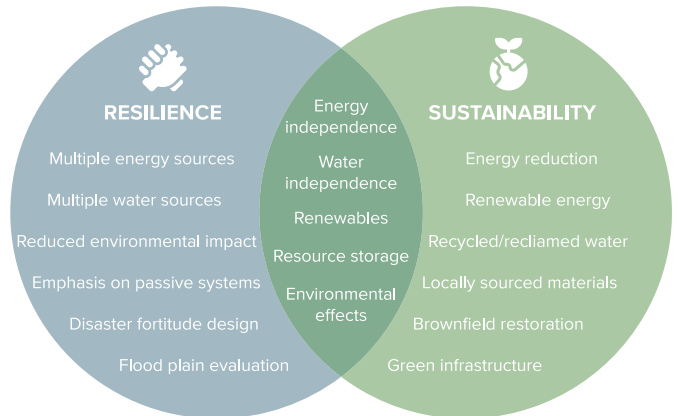
When you consider that a typical building will still be in use 60 years from now, the climate that building will encounter is likely to be significantly different. It therefore needs to be resilient.

Fabric first

By designing buildings using the fabric-first approach, they are adhering to the principles of resilient design, highlighting the focus on passive solutions first, rather than energy demanding 'quick-fixes', such as air-conditioning systems.

Incorporating passivity removes the dependence of a building on an external energy supply, promoting independence and ultimately, resilience.

The most impactful way in which the fabric of a building can be enhanced to increase energy efficiency is through



the incorporation of high-performance insulation. PIR and PUR insulation offers a highly effective solution, achieving excellent levels of thermal performance. Its versatility is a testament to the fact that this insulation is available as boards and blocks, cavity injected, composite panels and spray and panel insulation.

Once the high-quality building fabric has been correctly completed, there will be no need to re-visit this aspect of the building. Fabric-first will enable specifiers to future-proof their designs, which can be employed on projects of any size from the largest public building, to the smallest domestic extension.

A more energy efficient fabric from the outset can be upgraded later through improved services, ventilation measures, or the addition of renewable technologies.

Low carbon strategies

The IMA's Insulation for Sustainability publication highlights the issues associated with energy demand, and the way enhanced insulation strategies play a crucial role in the built environment to help the UK meet its net-zero targets.

Whilst resilience is multi-faceted and requires a long-term approach, reducing the energy demand of a building is of paramount importance.

Using a fabric-first approach with the most appropriate, durable and resilient high-performance insulation, to guarantee low future energy demands and reduced associated carbon emissions, is key to making our buildings resilient. **rci**

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