

The Eco-Friendly Benefits of Concrete



Elaine Toogood, Senior Architect at The Concrete Centre, explains how the world's most used building material can be eco-friendly.

Concrete has a poor eco reputation...

There's a lot of misunderstanding about its sustainability credentials, which may be because people confuse it with cement. In fact, it can be recycled and is made using recycled content, be it in the actual mix or as fuel to make cement. The industry uses 107 times more waste than it sends to landfill. Polished up, it can look amazing and is being used more inside the home, as worktops for instance.

How else can it be used?

Concrete works well in many applications, but it's also evolving, with new products coming to the market with environmental sustainability benefits. Concrete can be made with recycled content; products such as fibre-reinforced concrete and lightweight concrete are available. Unless you're buying a pre-manufactured product such as paving, roof tiles and masonry, concrete is usually made to order so designers can choose from a range of ingredients for the mix. Making it is a bit like baking in this respect, with established recipes developed for specific uses and others adapted to respond to alternative, new ingredients.

Can concrete make a building more energy efficient?

Yes, it can be used simply and effectively to provide buildings with excellent thermal performance. It can also be used to create well insulated and airtight buildings, with the added bonus of providing thermal mass. In the winter, concrete warms up during the day, ideally supplemented by any sun shining into the building. By the evening, when temperatures drop, the trapped warmth in the fabric continues to heat the internal spaces, reducing the need for supplementary heating. This combines the principles of passive solar design with ancient principles for cooling dwellings in warmer climates, and while not new, it's being used increasingly for buildings in the UK.

Is it a healthy material to have in our homes?

Absolutely. Concrete is associated with good indoor air quality because, unlike many other materials, it doesn't use glue or require preservative or fire-protection treatment to make it fit for purpose. These treatments are common sources of the formaldehyde and Volatile Organic Compounds (VOCs) that can be present in our internal environments. Concrete also has other healthy benefits, such as acoustic insulation and security between properties, fire protection and flood resilience – all of which help to enhance our sense of wellbeing through safety and security. When buying wood, customers can look for the FSC logo.

Is there an equivalent eco standard for concrete?

Yes, and most concrete that's used in the UK is responsibly sourced. In 2009 the Building Research Establishment (BRE) established a more comprehensive responsible sourcing standard called BES 6001. And the good news is that around 90 per cent of all concrete in the UK is responsibly sourced to this BES 6001 standard.