

elements europe



the sustainable housing solution

Building on the successes of Copod™, Solopod™, Strucpod™ and Roompod™, Elements Europe has continued its ambitious product development programme and creating **Ty Unnos Modular™** – literally translated as 'house overnight' – A factory manufactured, internally completed, sustainable modular housing system designed to exceed current housing sustainability standards while assisting the Governments delivery of affordable and social housing.

Designed primarily for the low-rise residential market, Ty Unnos Modular™ is set to radically change established house construction methods, by maximising the use of indigenous UK timber components uniquely manufactured to form the building superstructure.

The unique structure, and integrated supply-chain, **epitomises 'lean' construction** principles by addressing waste in a number of ways, primarily by components manufactured from a single standard timber component dimension. Off-cut materials are fed back into the manufacturing process for re-work and integration into the next structural component.

The use of 'home-grown' timber in the structure of the Ty Unnos Modular™ system ensures that the carbon footprint of the product is kept to a minimum. Timber is procured from local forests with Forestry Stewardship Council approval to maintain a locally sourced product, graded, machine cut, kiln dried then treated and fabricated into structural components for assembly into a **volumetric housing solution**.

The unique configuration of structural components provides an internal wall cavity with the potential to be filled with a range of insulation materials – recycled paper is the environmentally preferred insulation – providing a wall U-value of 0.17 and exceptional thermal performance levels. Allied to the thermal performance is an exceptional air-tightness standard all assisting to **reduce building carbon emissions**.

This combination of thermal performance and air-tightness provide a residential solution that is exceptionally cost-effective to run, with modules utilising a Mechanical Ventilation Heat Recovery Systems, to maintain a comfortable room temperature.



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product specification

Ty Unnos Modular™ assists the developer achieve **level 4 for the Code for Sustainable Homes (CSH)**, this is ahead of current Government environmental targets for residential construction. Although finish quality and the energy performance is substantially improved, costs are still comparable with traditional construction methods. Cost is contained due to the abundant nature of the raw materials and the efficient fabrication methods that have been adopted during the products development.

The modules have the flexibility to allow enhancements to the standard CSH Level 4 Ty Unnos Modular™ specification, ensuring that Code Levels 5 & 6 are attainable in a structured manner by apply additional environmental bolt-on features.

In order to control the application of the technology, Ty Unnos Modular™ will be rolled out via a select number of developers within the UK residential market, strategically selected and located to satisfy the UK demand. These developers are selected on the basis of their approach to the model, the technology, and above all their determination to help to provide **sustainable affordable residential accommodation** within the framework developed.

The Ty Unnos Modular™ house-types, ranges from one bedroom apartments thought to four bedroom houses with a selection of bungalows. A catalogue of standard layouts has been produced insuring not only generous space planning, but also compliance with Lifetime Homes standards, Homes and Communities Agency, various Registered Social Landlord Development Standards and Welsh Assembly Government housing spatial standards .

An example **financial model** has been compiled for all house types in the range. These calculations provide a full development breakdown of costs including land, professional fees, external treatment, foundation, roof, developers profit and other associated fees. The cost is therefore provided for direct module purchase from Elements Europe or complete "turn key" development budget costs for completed dwellings.

The provision of housing using a **volumetric modular solution** ensures that speed of construction on site is maximised at factory controlled quality. A Ty Unnos Modular™ home can be delivered and erected on site in just one day, the provision of foundation and utility connections must be in situ to allow for swift occupancy.

Ty Unnos Modular™ provides a unique solution to the provision of **affordable and sustainable housing within the UK**. Assisting Registered Social Landlords, Housing Associations and private developers deliver high quality low cost affordable homes.



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