Sustainability

U-Roof's system is developed and designed with waste prevention in mind; our superior, low carbon system offers a unique solution to assist with your sustainability requirements.

U-Roof Framing System

U-Roof has developed the 'U-Roof Framing System' which provides a thermally insulated warm roof solution for a domestic / light commercial structure. This system, when combined with the correct insulation can give an elemental wall U-value of 0.18 W/m2K -when used with traditional tiling for a roofing structure. U-Roof will provide advice on the U-values achievable with other cladding systems

U-values as low as 0.16 W/m2K and lower are achievable with the use of complimentary insulation products.

An A / A+ rating is achieved for this 'warm frame' type of construction under the BRE Green Guide.

Code For sustainable Homes

U-Roof's low U-value warm roof system is of great benefit when it comes to designing buildings to achieve an excellent BER (Building Energy Rating) or meeting the requirements of the Code for Sustainable Homes.

The U-Roof system offers numerous benefits in terms of meeting the various Code performance levels – and in more areas than you might expect! We will provide detailed Technical help on how to make best use of our system.

Energy/CO2 (Code Credits 29, Weighting 36%)

U-Roof's low u-values and high air tightness will help create a very energy efficient building fabric.

Materials (Code Credits 6, Weighting 9%)

U-Roof's high strength to weight and low waste processes means that U-Roof components achieve A+ and A product ratings in the BRE Green Guide for Light steel framing in roofing situations

Health and Well-being (Code Credits 12, Weighting 14%)

U-Roof can be detailed to give excellent and predictable acoustic performance. As a pre-engineered system it is also possible to accommodate flexible designs and cater for future adaptability.

Management of the Home (Code Credits 9, Weighting 10%)

Being an engineered system U-Roof is ideally suited to the creation of a user manual.

Waste, Pollution & Ecology (Code Credits 20, Weighting 21%)

U-Roof benefits from low waste processes on site and in the factory, which also has zero Ozone Depleting Potential (ODP) in factory processes. The system also greatly reduces transport movements in the construction phase.

Categories with No U-Roof Benefit (Code Credits 10, Weighting 11%)

The areas with no potential benefit from the U-Roof system only account for 10 Code Credits. So, although

the U-Roof system may only account for a small percentage of the total build costs, it will carry much more weight in terms of Code points!

Key Environmental Benefits

U-Roof Ltd incorporates Environmental and Sustainability issues at the core of our business philosophy and we strive to ensure that this is reflected in everything we do.

Our products are designed with the primary objective of reducing the impact of the Built environment on our Natural environment. Therefore, in addition to designing products that maximise the energy efficiency of buildings, the company is equally committed to minimising the environmental impact of its manufacturing activities.

There are 2 key principles that are at the root of our system's excellent sustainability credentials and low carbon footprint:

1) The U-Roof materials philosophy is to maximise product performance whilst retaining optimum economy of cost.
2) All manufacturing and assembly processes are designed to ensure the minimum of waste.

Key Materials

The key materials used in the manufacture of the U-Roof product are as follows:

- Light gauge galvanised high tensile steel – for the main structure
- Steel fixings galvanised or boron steel

The processes for the selection and manufacture of these products are described below. In all cases, U-Roof endeavour to ensure that processes are designed in such a way as to eliminate the creation of waste in the first instance. Wherever, possible processes are carried out in a controlled factory environment.

Light Gauge Steel

Material Sourcing - All Light Gauge Steel is sourced from blue-chip, multi-national companies with robust environmental policies.

By its nature steel is an inherently recyclable product and up to 50% of steel comprises recycled material. All U-Roof Light Gauge Steel is potentially 100% recyclable. U-Roof considers the environmental policies of its steel suppliers as part of our vendor rating process. For example, we consider the proportion of slag generated in steel production, which is recycled for use as aggregates or a cement substitute (ground, granulated blast-furnace slag – GGBS).

Manufacture of all of U-Roof's Light Gauge Steel manufacturing processes operate on the basis that steel is 'rolled to order', thereby minimising the amount of primary waste. There are no off-cuts, as sections are produced to the exact length required. Any punch-outs (<1%) that are generated as part of the production process are either re-used as brackets or in the final instance sent for recycling. Any longer lengths of

material generated during calibration are once again re-used as brackets/stiffeners, or as temporary bracing material on site – where again they are re-used from site to site. Less than 1% of U-Roof's Light Gauge Steel is sent for recycling – where a vibrant market exists for recyclable products.

Key Materials – Additional

U-Roof recommend the following Additional materials to achieve the design Requirements, this is supplied by others.

Xtratherm XT/PR or similar – for insulation.

150mm insulation to give 0.16 W/m^{2}K U-Value for above rafter insulation.

120mm insulation to give 0.18 W/m^{2}K U-Value for above rafter insulation.

These insulation thicknesses can be increased to achieve lower values to meet the regulations at time of build / in the future without modification to the main U-Roof System.

OSB (Oriented Strand Board) - is recommended by U-Roof for floor decking.

Material Sourcing – OSB by its nature is a material, which uses the small off-cut/waste materials generated by primary timber production processes. U-Roof Recommend that the timber in the OSB used by the contractor is sourced from sustainable timber resources (PEFC certified).

Environmental Qualities

U-Roof retains environmental and sustainability issues at the core of our business philosophy and we strive to ensure that this is reflected in everything we do.

- Light Gauge Steel is 100% recyclable
- With Light Gauge Steel - a little goes a long way!
- Very low waste processes - factory and site.
- Raw materials are converted to product very efficiently, with huge transport benefits.

Transport Efficiency

All U-Roof sections are hot dipped galvanised and require zero protection from the environment during transport or installation.

All the U-Roof manufacturing processes are highly efficient in terms of transport utilisation when converting raw material to finished product:

For example, one delivery of steel to the factory (20 tonnes) will generate enough finished product for 15-20 typical house roof types.

Once manufactured the roofing Structure can be delivered flat pack to site of up to 10 structures in one load, as the units are stacked in a pallet like fashion. Transportation savings are achieved by the use of non specialised vehicles and more efficient handling and loading characteristics.