- Thatching is no more expensive than traditional peg tiling or specialized slating.
- New thatched properties should be designed to utilize the majority of the steep roof space for living quarters to benefit from the super insulation values.
- The cost of a utilized steep/deep roof space can be offset against the savings made on reduced wall structures.
- The risk of thatch fires can be mostly designed out from the outset.
- To ensure consistent high durability of thatch, builders/clients must insist on good quality materials used, together with the optimum thatch specifications and high craftsmanship.
- Keeping clean simple lines for thatch design is imperative for the new generation of trainee thatchers that will be needed over the next few years, poor design with crowded shallow pitched features are expensive to thatch and maintain.
- Thatchers have mainly dealt with conservation work for the past one hundred years, they need your support to break into the new build sector to help you build a progressive & profitable development program.
- The Thatching industry is looking towards obtaining BREAAM and BBA accreditation to overcome some of the obstacles to break into the new build and re-instatement and to take advantage of compliance with Part L Building regulations.

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Thatch

a gold key

to development for sustainable new build in rural areas?

Thatching is the ultimate in building low carbon roofs.

- Four types of thatch- Long Straw; Norfolk Reed; Combed Wheat Reed; Heather.
- All have very low Embodied Energy (Carbon) in their production.
- In Fact they have a Negative Carbon footprint.
- Insulation and a roof rolled into one.
- To the enlightened, thatch is not only our heritage but our future as well.
- Developers and planners are missing a trick, new build thatch has been roaring away in Europe for the past 10 years! Fortunes have been made!

Roofing Material	*Manufactured or applied thickness (mm)*	*Thermal Conductivity W/mK*	*Thermal Resistance R-value*	*Embodied energy KWh/ m3*	*Weight Kg/m2*	*Lifespan Professional workmanship (years)*
Clay Tiles	10	1.15	0.017	2,793-3,910	40-90	30-100
Concrete Tiles	10	1.44	0.013	630	40-90	30-50
Local Slate	5-10	1.90	0.005	540	20-30	100+
Local Stone Tiles	40	1.30	0.023	450	100-150	100+
Timber Shingles	10-20	0.13	0.300	30-100	40-50	50
Water Reed	300	0.09	3.333	5	35-40	40-60
Combed Wheat Reed	300	0.07	4.285	5	25	30-40
Long Straw	400	0.07	5.356	5	28	30-45
Heather	400	0.09-0.15	?	5	50-150	40-70
Insulation	Example (mm)					
Rigid Polyurethane Foam	75	0.025	3.000	?	?	?
Fibre Glass	75	0.040	1.875	?	?	?
Mineral Wool	75	0.032	2.343	?	?	?
Hemp & recycled cotton	75	0.039	1.923	? Low	?	?
Still Air		0.020				

Stephen Letch
Thatchspec Ltd

Thatching- Its Green credentials

Insulation- Thatch types do vary with their principle thermal conductivity values, i.e. water reed being 0.09 W/mK and long straw being 0.07 W/mK, knowing these values we can work out the U-values and thermal resistances of each material.
Long Straw thatching on a new roof frame performs best, it's 450mm thickness specification having an R-value of 6.43 which is equivalent to 150mm of foil backed rigid polyurethane foam insulation.
To gain the full benefits of thatch's insulation properties, buildings must be designed to utilize the whole roof space for living quarters, either as a sealed roof or at least a draft free system, vent circulating warm air back down to the ground floor.
As an organic material, thatch breaths, it will slowly absorb from inside moisture from inside or out to then diffuse/evaporate moisture on its outside surface with the effects of wind and sun. Thatch is effectively a thick breathable insulating membrane that self regulates inner moisture levels to around 16%.

Embodied Energy- Very nearly none! 25litres of diesel would be used to harvest and locally transport (30mile radius) enough of the primary thatching materials to complete an average 100sq m cottage roof. Manpower energy is the only requirement needed to then thatch a roof.
Do remember that long straw/combed wheat reed production is a by-product of our agricultural food industry, which means that embodied energy in crop production is subsidised by the primary grain objective.

Negative Carbon Footprint- Thatch is not carbon neutral, it's more carbon negative! Straw, Heather and Water reed all take Carbon Dioxide out of the atmosphere on each growing season and lock it within its biomass. An average thatch would require approximately 4 tonnes of material, each thatch material has between 40% and 50% of Carbon Dioxide in it's make up which would mean close to 2 tonnes of Carbon Dioxide would be stored within the thatch!
Every acre of older tall wheat varieties locks up 1 tonne of Carbon Dioxide in its stems alone each year, sustainable timber production for building can't compete with crops for carbon lock up, it takes a number of years before tree saplings start to perform well in this manner.

Durability & Recycling- With a maintenance programme approximately every 15 years or so (usually ridge attention), a well thatched property using long straw/devon reed material can be expected to have a lifespan of between 30 and 45 years, water reed and heather thatched properties can average 50 years lifespan. The durability of a thatch can also depend on factors such as quality of materials, skill of the thatcher, pitch & design of roof and it' position to the elements and sun.
When finally a thatch has worn down to its fixings the usual practice is to strip old water reed thatch down to the rafters or in the case of long straw/devon reed strip a top layer(s) of thatch away down to the original rafter fixed coat in preparation for the new thatch. The stripped thatch material if dry could be recycled into compressed bales for use in burning in a heating system or laid out as mulch in the garden, partially decomposed thatch makes good organic compost for the veg patch.

Thatching supports Farm Diversity- Rural employment would have a great boost if only just a small percentage of the governments target of 300,000 proposed new homes were to be thatched, inland arable regions would benefit with long straw thatching utilizing cereal by-products.
Coastal and estuary areas partially reclaimed by the sea could produce vast stretches of water reed for thatching instead of importing 80% of thatchers reed requirements each year from Eastern Europe and China.
Small woods could be rejuvenated by regular coppicing of Hazel for thatching fixings.