



Langford Farm Barns

This outstanding conversion of a series of barns by multi award winning developer John Langdon of Heritage Oak Buildings is set in the picturesque village of Lavant, just outside the historic city of Chichester in West Sussex.

The once dilapidated barns have been restored sympathetically to previously unimagined splendour. These stunning new homes retain the charm of their 19th century Sussex barn origins whilst seamlessly combining it with the comfort and efficiency of genuinely modern homes.

The exacting standards in modern insulation values and air tightness have been met with ease through the considered application of Foamseal spray applied polyurethane foam. Foamseal has been installed to the BBA approved standard and demonstrates perfectly the superb results that can be achieved in the roof walls and floors. Foamseal has been an active partner in the development of the insulation specification, providing continuing onsite assistance, 'U' Value and Condensation risk analyses for each element of the building envelope where Foamseal has been applied.

The result has produced thermal efficiency and air tightness of outstanding performance that satisfies the very demanding standards required for the Codes for Sustainable Homes.

The Project Specification

The once badly delaminated clay tile roof has been stripped and re-laid to include DuPont Tyvek breathable roofing membrane which makes the ideal accompaniment to the 120mm of Foamseal polyurethane foam spray applied directly to the underside of the membrane. The application exceeds with ease the insulation values required to meet current building regulations. The benefits of this specification to the developer are extensive and include that the foam application is much quicker than cutting boards to fit, especially with irregular rafters. The foam can be installed as soon as the roof is weathertight and is carried out by Foamseal approved and certificated, qualified installers.

The flint stone solid walls were previously studded out with 70mm CLS studwork (or Gyproc metal studs can be used) set

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CASE STUDY | BARN CONVERSION



slightly off the wall to allow the foam to get behind the studwork to provide a weatherproof seal against driving rain and rising damp. A perfect air tight seal between the walls and the roofs of the barns is created in a seamless coating of foam. Any fungal growth on the wall surface is prevented and the foam eliminates any space for insects or rodents.

Timber frame stud work was erected to enclose 75mm of Foamseal polyurethane foam sprayed directly onto the stone walls. This, when finished with a high vapour resistance wall board as in the roof spaces, gives a high performance with an immaculate aesthetic.

The floors of the barns achieve the height of thermal efficiency and comfort with 100mm of Foamseal polyurethane foam sprayed directly onto the concrete base.

The under-floor heating pipes are neatly clipped directly to the polyurethane foam insulation and the floor is finished with 65mm of liquid applied, self levelling screed. The combination of elements in the flooring allow for the top quality floor covering of choice to be installed with maximum efficiency.



The interior is finished to the highest of standards, as would be expected in a quality conversion, with the foam application assisting the developer in making the most out of the stunning period features. With all of the development now sold except one final plot, the new residents of Langford Farm Barns can be confident that they have acquired beautiful period properties that combine energy efficiency and comfort that exceeds the most up to date of exacting standards in a truly contemporary home.

One proud owner has already commented that even in this year's vicious cold snap he wore nothing but his shirtsleeves and he noticed that the snow on the roof of his warm and cosy home lasted as long as the nearby unheated, unoccupied last remaining property.

Technical Details

Element	Depth of Foamseal polyurethane foam spray applied	'U' Value achieved
Roof	120mm	0.20 W/m ² K
Walls	75mm	0.20 W/m ² K
Floor	100mm	0.16 W/m ² K

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