CEDAR BARN - LEICESTERSHIRE

Vaulted ceilings make for optimal acoustics and a space that feels simultaneously ornate and cosy

Project Name: Cedar Barn

Company: Frame Technologies

Sector: Self Build

Technology: TechVantage™ E

Overview:

Cedar Barn is a rustic two-bedroom property in Leicestershire, home to a couple who had been planning their dream home for years before finding the ideal plot. Boasting a timber frame with optimal thermal and airtightness properties, Cedar Barn is well-insulated and requires only minimal heating during winter months, vastly reducing the self-builders' carbon emissions and heating costs.

The Challenge:
The couple had always wanted to buy a home in Barsby so that they could live near family. Challenges arose as houses in the area were not within budget and the land had never been available for self-builders. Finding the right plot for a self-build home is always difficult, but a 150m^2 prime piece of land on the self-builders' family farm presented an opportunity that was not to be missed. The reserved location offers expansive views over the open countryside, surrounded by wider Leicestershire, an ideal setting for the countryside Cedar Barn home.

At this point, the self-builders set about their search for a sustainable, environmentally conscious self-build specialist. Daunted by the construction knowledge required to build their own home, they were attracted to the family-run, supportive nature of Frame Technologies, as well as the hands-on one-stop-shop package that we provide.

Meeting The Brief:
The self-builders finalised a design that required exposed trusses, glulam beam vaulted ceilings and open-plan rooms – all to be achieved within budget. Offering complete design and living flexibility, Frame Technologies achieved the spacious design by structuring a fully vaulted ceiling over the combined kitchen, dining area and living room, as well as over the master bedroom and dressing room. The vaulted ceilings make for optimal acoustics and a space that feels simultaneously ornate and cosy.

Achieving The Optimum Performance:
The homeowners decided on a timber frame system for their part one-storey, part two-storey home. Frame Technologies' TechVantage™ E system provided the solution, complete with a U-value of 0.14 W/m^{2}K, which applies to all external walls. These walls comprise a 50mm internal liner, service batten and timber cladding exterior. With multiple high ceilings, it was vital to deliver excellent airtightness. The TechVantage™ E system achieves optimal airtightness properties through its fully insulated 140mm panel, which contains rigid polyurethane insulation, a 9mm OSB outer sheathing and plasterboard. The closed panel solution enabled the build to progress quickly: Frame Technologies engineered and erected glulam trusses over the main vaulted areas within seven days. The self-build is complete with underfloor heating, which is powered by an air source heat pump, meeting the required energy rating of B. The self-builders were keen to only use renewable energy sources, keeping their carbon emissions minimal. During the majority of the year, no heating is required whatsoever due to the excellent thermal benefits of the timber frame.

Homeowner Comment:
“Working with Simon, Jennifer and the whole team at Frame Technologies was a great experience. From the very beginning, Simon understood that we were self-build beginners. The friendly, personal service was there from start to finish. It was very appealing that we could speak directly with Frame Technologies about any queries at any time. Simon was fantastic when liaising with other trades during the build too, which took pressure off us. Building your own home is such a privilege – both a joy and terrifying – and knowing that we were working with experts in structural timber frame took away a lot of the fear.”