MINERA
ROOF TRUSSES & JOISTS

Minera Roof Trusses Limited
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Tarporley 'Superchord' Self-Build

The Brief

We were approached by a client involved in the self-build of a residential development. On this particular project the client called directly into our offices in Minera, Wrexham with his plans to discuss the feasibility of using roof trusses on his project. We were only too happy to assist him. His architect had originally specified that the roof should be constructed using a number of steel beams running the full length of the building to support site-cut rafters. The client was concerned the weight and size of the steels would make them very difficult to handle on site. He wanted to discuss his concerns and see if we could provide an alternative option.

The Solution

Upon examination of the plans we quickly established we could fulfil all of the client's requirements. We proposed a solution in trusses which eliminated the need for any steel beams. Furthermore, we were able to provide full calculations for our client to pass onto LA Building Control to satisfy Building Regulations. We proceeded to put the concept designs together using our 3D roof engineering software, allowing the client to clearly visualise what the proposal consisted of from every angle. The build had a large feature window high in the gable end which was a crucial feature the client was keen to maintain.

Results

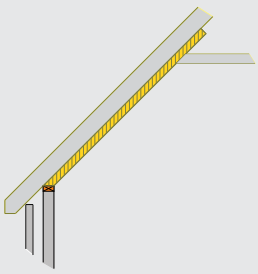
To gain the maximum headroom possible in the roof we designed 'Superchord' raised-tie trusses. Trusses become 'Superchords' when an extra timber is fixed along the rafter to provide additional strength to the timbers. This enables the ceiling member to be raised higher, creating more height in the room below. The 'Superchord' rafters on the trusses enabled the feature window to be kept in the project, along with the high ceilings. In addition to this, their inclusion removed the need for any cumbersome steel beams and dramatically reduced the time spent constructing the roof on site.

Client: Residential House Build
Installation: Tarporley, Cheshire
Date: Spring 2017
Number of Trusses & Floor Joists: 40/15

Conclusion

We were able to provide the client with a trussed rafter solution that did not require any internal load-bearing walls or large heavy steel beams running the length of the building. Futhermore our solution allowed the feature window and high ceilings, key design features of the project, to still be prominent. The whole project was a great success as the concerns and issues that the client first raised were overcome with a solution that would allow the client to maintain features of the building he was initially concerned would have to be sacrificed. Our experience and expertise ensured that he did not have to compromise on his build from a design perspective. We are very proud of the finished result and look forward to working with our future customers on more projects of all shapes and sizes.

For more of our case studies please visit:
www.minera-rooftrusses.com



Superchord

A Superchord is an extra timber fixed along the raised-tie rafter to provide additional strength to the timbers.

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Replacing Steel Beams With Trusses

During this project, we were able to assist our client with key structural issues that they faced, providing a superchord truss solution which eliminated their initial need for structural steel roof purlins whilst simultaneously resolving their issues with the lateral stability of the high internal cross walls.

Although we can't guarantee to eliminate the need for steelwork with every build, we do formulate a viable option for architects, engineers and builders who are looking to not only reduce the cost of their overall build but to also save labour time on site.

Minera Roof Trusses are highly adept at producing a roof truss solution for even the most complex of designs in order to minimise or eliminate the need for steelwork. We do this by creating the best possible solution during the design consideration phase to give you an economical result.

"I have known Minera Roof Trusses since 1989, when I was carrying out up to 10 periodic site visits a week on self-build houses.

Minera's technical team greatly assisted in overcoming problems by designing superchord roof trusses that would span the width of the property without the need for structural steel roof purlins. Thus resolving the issues with lateral stability of the high internal cross walls.

Minera worked with me through a number of possible solutions, preparing drawings and calculations for building regulations approval.

Both myself and my clients are extremely pleased with the roof design and construction of the roof trusses by Minera Roof Trusses, and the speed of delivery to site."

David Grube - Architect

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