

Striking Gold - thanks to volumetric construction

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Summary

Working with Link Housing Association and housing developer and project manager Tigh Grian Ltd to demonstrate the potential quality, cost, and time benefits of volumetric construction; how this form of construction can achieve the Gold Standard of Sustainability for housing - for the same or lower cost than timber frame-constructed Bronze Standard homes.

Background

The development, now nearing completion, is on the site of a former school in Alva covering almost 8,500 square meters. A total of 48 dwellings have been constructed since May 2016 using volumetric construction techniques. For the Alva development, the entire house, including toilets and kitchens, were constructed by Tigh Grian in Wales before being transported to Scotland. The building system is SIPS (Structural Insulated Panels) which are prefabricated panels, used to create two and three story dwellings. The foundations and the outer skin (brick, block and/or timber cladding) were constructed on-site.

Challenges

Leticia had theoretical knowledge of airtightness testing, gleaned from university courses, but this was her first experience of using and calibrating the equipment and software. The methodology for the results analysis was also a new process to follow. A future challenge for her research will be how best to apply this volumetric construction technique in a non-domestic background.



Benefits

By demonstrating the many benefits of volumetric construction, and highlighting other considerations and potential pitfalls, the project team hope to share learnings for future application by the Scottish construction sector.

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“ I am assisting with airtightness and thermal testing of the 48 houses, helping to measure the performance of the design and construction, as well as highlighting the potential Improvements required. ”