



Solar



Ventilation



Thermal Efficiency



Condensation Control



A blueprint for sustainable social housing at new build development

A range of trusted product solutions from leading manufacturer Glidevale Protect has been specified and installed to help create energy-efficient and healthy homes by property development specialists Castell Group, for use on a new affordable housing scheme constructed in Llansamlet, Swansea.



End client:

Caredig

Offsite Timber Frame Manufacturer:

LoCal Homes

Products:

Protect A1 Solar, Protect Fulmetal UniRoll, over fascia vents, rafter roll, eaves skirt, Protect TF200 Thermo

Main Contractor:

Castell Group

Specialist Roofing Contractor:

Alex Baul Roofing

The Samlet Road development has enabled the Castell Group to create 35 new homes, including a mix of 1 and 2 bedroom apartments and 2 and 3 bedroom houses, for those in greatest need.

This new build project was designed with a fabric first approach and features numerous sustainable elements to enhance the quality of living spaces and reduce energy costs wherever possible, including the installation of integrated in-roof solar PV panels throughout the development.

These homes were developed on behalf of social housing provider Caredig, transforming a brownfield site in Llansamlet, Swansea.

The use of solar PV panels throughout is a key feature and one that has been integrated specifically to improve the energy efficiency of the properties and contribute to lower fuel costs for residents. It's vital that the roofing membrane and ventilation system works as efficiently as possible and the risks of

any moisture ingress behind the solar panel arrays are minimised. We needed a robust solution and Glidevale Protect proved to be the perfect partner in terms of its wide range of roofing products available, as well as the technical support and expertise the team brought to the table.

Donna Rosser,
commercial manager, Castell Group

The challenge

The Samlet Road development featured a combination of timber frame homes and traditional masonry-built apartments, necessitating the specification of building products suited for the entire project. The flexibility and wide scope of Glidevale Protect's roofing and construction product solutions allowed them to be installed throughout the scheme.

With an objective to transform the former site of a car dealership, the challenge for this development was to create high quality homes, designed and built to a high standard and specification, with a key focus on sustainability. The drive for EPC-A rated social homes meant that the selected materials used as hidden protectors within the building envelope such as the reflective wall membrane had to provide a strong foundation for additional sustainable features to be added, helping reduce energy costs for tenants. In order to keep the carbon footprint to a

minimum, the developers sought building materials from a local supply chain to increase social value within the community and Glidevale Protect met this requirement with the installed membranes being produced nearby at the Merthyr Tydfil factory in South Wales.

With the homes available to rent through registered social landlord Caredig, the housing solutions provider for people who need support to maintain their tenancy and are most in need of affordable, modern and secure housing, the focus on building healthy homes with appropriate ventilation was as important as reduced energy savings.

Glidevale Protect delivered on these objectives by supplying a combination of products for the roof and wall, creating the benefits of thermal efficiency, ventilation and condensation control.



Our ethos is built on partnership and collaboration and having worked with Glidevale Protect for upwards of seven years, we consider them a key supply chain partner. We chose to use Glidevale Protect products on this project because of their quality and reliability of performance.

We work within a fabric first design and the excellent aged thermal resistance of Glidevale Protect's reflective membranes allow us to easily meet the low wall U-value requirements of both our open and closed panelled systems.

Mike Doolan,
sales and partnerships manager, LoCal Homes



The solution

To help deliver healthy homes, Glidevale Protect supplied products from across its roofing and wall construction ranges including high-performance pitched roofing membranes and ventilation solutions tailored to the project's specific needs.

The specified roofing underlay was Protect A1 Solar, a high performance, heavy-duty type HR impermeable roofing underlay designed for use on all cold and warm pitched roofs where in-roof solar PV panels are installed. Partnered with the correct ventilation strategy, the underlay helps reduce the risk of interstitial condensation forming on the underside of solar PV panels. To ensure condensation control was achieved in the roof space, Glidevale Protect also provided a selection of roofing ventilation solutions. These included over fascia vents and rafter rolls to achieve low level ventilation at the eaves and the Protect Fulmetal UniRoll dry-fix ridge and hip system for high level ventilation at the ridge.

The timber frame homes on the development also feature Glidevale Protect's low emissivity TF200 Thermo reflective external wall breather membrane to help achieve overall lower wall U-values and improve the thermal efficiency of the properties.

Supply chain collaboration was vital to the successful delivery of the scheme, with the Glidevale Protect technical team working closely with specialist roofing contractor Alex Baul Roofing and the main contractor Castell Group to devise a suitable ventilation take off and specification that accommodated the solar PV roofing elements being installed. This development also saw Glidevale Protect work with established supply chain partner and manufacturer of the timber frame structures LoCal Homes, part of the Green Square Accord Group. LoCal Homes provides both traditional and closed panel timber frame systems, working with contractors and housing associations to create award-winning affordable housing that can be produced at volume and pace. By supplying the Protect TF200 Thermo membrane for installation in LoCal Homes' factory, this helped the timber frame manufacturer add pre-manufactured value during the offsite construction process.

Product overview

The Samlet Road scheme is a great example of how the design of a building with a fabric first approach at its heart can contribute both towards a correctly ventilated, healthy home and deliver an energy efficient, sustainable housing development. By adding integrated solar panels to the roof, along with the correct mix of products from Glidevale Protect to mitigate potential issues with moisture and vapour, homes were created that will also generate lower running costs for social tenants. This was enhanced by the choice of a thermally efficient, reflective breather membrane used on the external walls of the timber frame homes.



Protect A1 Solar

- A high performance, heavy-duty, type HR impermeable roofing underlay, designed for use on all cold and warm pitched roofs, where in-roof solar PV panels are installed.
- Used in conjunction with high and low level ventilation, Protect A1 Solar reduces the risk of condensation forming on the underside of solar PV panels and therefore minimises the likelihood of rotten timbers.
- Providing a second line of defence against wind driven rain and snow, the use of Protect A1 Solar helps reduce the wind uplift loads on the roof covering and has unrestricted use in the UK and Ireland in wind uplift zones 1- 5 to BS 5534.
- No need to install additional counter battens above the membrane, reducing time and material costs.

Protect TF200 Thermo

- A waterproof, low emissivity, highly reflective breather membrane to improve the overall U-value of the wall.
- Helps meet the requirements of Building Regulations Part L, the Notional Dwelling Specification for walls and also NZEB in Ireland.
- Meets the permeability requirements recommended by TRADA and NHBC.
- Aligned with STA Advice Note 18, with an aged thermal resistance of 0.77 m²K/W, incorporating printing and using typical 600mm stud centres.

Protect Fulmetal UniRoll

- Universal ventilated dry-fix ridge and hip system with unions.
- Manufactured completely in aluminium for high weatherproof performance.
- True continuous 5,000mm²/m of ventilation to comply with BS 5250.
- Unrestricted use across the UK and Ireland in wind uplift zones 1-5 in accordance with BS 8612 and BS 5534.
- Mortar free, dry fixed system allows for easy installation and no ongoing maintenance.
- Easy to form over tile profiles due to the malleable aluminium construction.
- Underside butyl strip provides a strong permanent bond.

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