

CASE STUDY

RESEARCH FACILITY

PRESTWICK

FLEXTRON



ROOFTOP SOLAR SOLUTION POWERS PRESTWICK R&D FACILITY AS PART OF KALZIP PACKAGE

The creation of an important new aerospace research facility at Prestwick in Scotland has included the largest installation to date of the innovative new AluPlusSolar system incorporating Flextron thin-film PV modules.

The 8,000 m² building was designed by Glasgow-based Hypostyle Architects, with Balfour Beatty appointed as main contractor. Fowler McKenzie, which operates across the whole of Scotland from its premises in Aberdeen, is the roofing and cladding specialist which undertook the entire envelope package and was responsible for putting Kalzip AluPlusSolar forward to the project team.

AluPlusSolar is a versatile and highly energy efficient lightweight system that has been developed in conjunction with BIPVco who supplied the panels for bonding onto the Kalzip 65/400 roof sheets.

The latter were rolled to length on site for Fowler McKenzie's teams to install directly across the full span of the barrel-vaulted structure.

Crucially, the super thin PV laminate and connected equipment add just 3 Kg/m² to the weight of the roof: a total saving of 8.5 tonnes across the development compared to standard systems – while providing a potential peak capacity of 126 kWp.



Architect: Hypostyle Architects

Installer: Fowler McKenzie Ltd & Gribben Solar Roofing Ltd

Year: 2020

Products: Kalzip AluPlusSolar with 65/400 roof sheets and BIPVco Solar panels with a peak capacity of 126 kWp.

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BiPVco's Flextron thin-film solar modules were installed on the new station roof, rain cover over the accessible ramp and all new canopies, and generate all the power the development needs, adding to the station's green credentials.

At only 3mm thick and 3kg per m² the sophisticated and flexible panels differ from traditional solar panels, requiring no additional weight support.

TESTIMONIALS

"The contrast between AluPlusSolar and other PV systems is vividly illustrated by the adjoining building at Prestwick, which we also designed with a Kalzip roof that has the PV mounted on triangular assemblies – because of the roof angle – plus all the associated access walkways.

Instead the bonded solution is streamlined to the roof so that you don't really see it from the ground, and it allows you to just read the building form; while the client was very keen on the greatly reduced maintenance implications. Kalzip AluPlusSolar even rules out problems such as birds nesting under panels, and there are no shadows cast by them being lifted up – which can reduce the efficiency."

Steven Colvin, Associate, Hypostyle Architects

"Balfour Beatty in conjunction with Fowler McKenzie, Kalzip and Hypostyle identified the benefits of the new PV system during the early roof build up design development phase. The Kalzip solution has taken a considerable loading off the roof and reduces maintenance as we are only installing one product in lieu of a traditional PV panel and a walkway product. Aesthetically it also provides a better finish to the build.

It also reduces the number of trades on the roof, which assists health and safety and reduces the likelihood of damage to the finished Kalzip sheet."

Tony McKay, Project Manager, Balfour Beatty



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