

Case Study

Solar Canopies at Imjin Barracks

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Twinfix was commissioned to design, manufacture, and install two bespoke canopy structures at Imjin Barracks in Gloucester, a key military site housing the Headquarters of the Allied Rapid Reaction Corps (ARRC).

As part of a larger initiative to provide modern, sustainable accommodation for Army personnel, Twinfix's expertise was called upon to create durable and functional canopy solutions that would also contribute to the site's renewable energy objectives.

The project included the installation of two canopies: a part free-standing, part lean-to, mono-pitch entrance canopy, and a free-standing mono-pitch walkway canopy. Both were designed to enhance functionality and contribute to the Army's environmental and sustainability goals through the integration of photovoltaic solar panels.

Both canopy structures were constructed using high-quality aluminium, which carried the UKCA mark, ensuring full compliance with UK safety standards and regulations. The aluminium was powder-coated in RAL7016, giving it a robust, long-lasting finish that harmonised with the overall architectural aesthetic of the new building. Squared posts were chosen for both canopies, adding to the structural integrity and sleek appearance of the designs.

For the entrance canopy, Twinfix utilised their Multi-Link-Panel Non-Fragile system, fitted with 7.5mm laminated clear glass for the roof glazing. This system ensured the structure was highly durable, while also allowing natural light to pass through, creating a bright and welcoming entrance. Additional features such as closure trims, including ridge and fascia, provided a clean, secure finish. The entrance canopy, supported by three squared aluminium posts, measured 7.54 metres in length with a projection of 2.051 metres, offering essential shelter and enhancing the overall appearance of the building's entryway.



The walkway canopy, spanning 56 metres in length with a projection of 2.7 metres, was constructed using pressed aluminium sheet, powder-coated to match the entrance canopy. The roof, made from 3mm thick polyester powder-coated pressed aluminium, was designed for maximum durability and weather resistance. This structure, which featured one hip and one valley, provided a seamless connection between different parts of the site, offering protection from the elements for personnel moving between buildings.

Both canopies featured integrated aluminium guttering to ensure efficient water drainage and weather protection. Structural calculations were carried out to confirm that the canopies met all necessary performance and safety requirements.

A key feature of the walkway was the integration of photovoltaic solar panels, which aligned with the wider project's commitment to renewable energy and sustainability. The solar panels helped reduce the building's reliance on external energy sources by contributing to its renewable energy generation capacity, supporting the Army's broader Net Zero Carbon goals.

Twinfix's involvement in this project exemplifies their ability to deliver high-quality, bespoke canopy solutions that not only meet the practical needs of a modern site but also contribute to its environmental sustainability. The entrance and walkway canopies at Imjin Barracks provide long-lasting protection and shelter, while also enhancing the energy efficiency of the site through their integrated solar technology. This project demonstrates Twinfix's commitment to innovative design and sustainable construction practices in line with the latest industry standards.

