

Case Study

Aeroplane Engineering Plant

Eaton



System used

AlphaGuard PUMA
Liquid & POWERply SA
RBM Systems

Project partners



Project type

Refurbishment

Sector

Industrial

Survey stage



The challenge

Multiple roof areas at an aeroplane engineering plant in Eaton was experiencing active water ingress, requiring immediate mitigation to protect sensitive operational machinery below. Temporary internal troughs had been installed to capture leaking water and prevent it from impacting equipment, highlighting the urgency of a permanent solution.

The main roof comprised an ageing felt system that had developed extensive blistering. These blisters were allowing cracks to form, creating direct entry paths for water. In addition, a smaller metal composite roof was also leaking and required full refurbishment.

The project was further complicated by operational constraints. Access was limited both externally and internally due to live machinery, a small compound area, and restricted lifting capabilities. Works needed to be carefully phased to maintain ongoing operations while ensuring safety at all times.

The action

The first stage involved addressing the defects in the felt roof. Blisters were systematically opened, made good, and the surface fully prepared and washed to ensure suitability for overlay. Once prepared, the main roof was overlaid with the POWERply RBM Roof System, providing a robust and long-term waterproofing solution.

Refurbishment of the metal composite roof was completed using AlphaGuard PUMA Liquid Applied Flat Roof System.

Additional improvement works were undertaken, including the installation of new chimney vents and the formation of new kerbs. All unused vents were decommissioned and removed to reduce future leak risk. Existing

skylights were removed and replaced with new units supplied by Naturalight, improving both weather performance and natural daylighting.

Due to the operational environment, the project was delivered over a three-month period. Work areas below were closed in phases, allowing roofing works to progress safely while enabling parts of the facility to remain operational throughout. All works were completed using harness-based access and perimeter edge protection, with materials lifted via hoist only, as forklift use was not possible due to restricted access and limited compound space.

The solution

The completed refurbishment delivered fully watertight roof systems across both felt and metal roof areas, eliminating active leaks and removing the need for temporary internal water management measures.

The installation of POWERply RBM SA Flat Roof System and AlphaGuard PUMA Flat Roof System, combined with upgraded roof details, new skylights, and rationalised penetrations, significantly improved the roof's long-term performance and reliability. Careful phasing and access planning ensured the project was completed safely and efficiently within a live operational environment, protecting critical machinery and supporting uninterrupted business operations.



Internal trough

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Before



After



After





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