CASE STUDY

Towers School

Garland System	Sector	Client	PV System
Solarise + StressPly	**Education**	**Towers School**	**76.11 kWp**

Towers School in Ashford, Kent, embarked on the critical refurbishment of a core teaching block, where extensive roof failure was beginning to disrupt learning environments.

In partnership with Richard Carré of Carré, an expert consultant and building surveying firm, **Garland UK** was appointed to deliver a complete building envelope solution, aiming to restore waterproofing integrity, improve thermal efficiency in line with regulatory targets, and reduce long-term energy costs through the integration of solar technology.

Challenge

The existing roof had long surpassed its service life. As a traditional built-up felt system, it showed widespread signs of deterioration, including blistering, debonding at laps and penetrations, and chronic ponding caused by insufficient drainage. Garland UK Technical Manager Sam Rigden conducted a detailed survey using core sampling and Tramex moisture mapping. The findings revealed multiple water ingress points and insulation that was saturated in several areas, with moisture tracking into high-traffic areas, including classrooms and corridors.

The system's thermal performance was also far below modern standards, with a U-value of 0.68 W/m²K. This presented a dual challenge, to deliver a watertight, compliant waterproofing solution and design-in improved energy efficiency and sustainability through integrated solar PV.

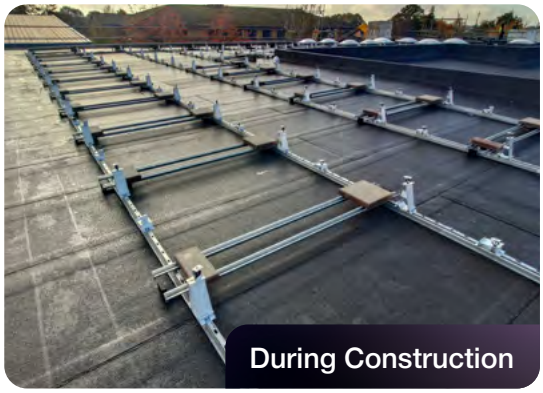
> ***"The existing roof had long surpassed its service life."***

Solution

Garland UK developed a bespoke warm roof specification to meet the unique technical demands of the site. A tapered insulation scheme was introduced to resolve drainage issues and achieve a U-value of 0.18 W/m²K, aligning with current Building Regulations. The build-up included a metal-lined vapour control layer, vented underlay, and a final cap sheet of StressPly Flex Plus, a high-performance bituminous membrane engineered to provide long-term durability, flexibility, and resistance to environmental stress.

Installation was delivered by the approved contractor, Byford Roofing Services Ltd, with Garland providing regular on-site technical oversight through Regional Technical Manager Sam Rigden, ensuring that every detail adhered to the specification. The works were delivered in full compliance with British Standards and Safe2Torch guidance, giving the school's estate team complete confidence in fire safety, regulatory alignment, and installation best practices.

To future-proof the investment, a 76.11 kWp Solarise PV system was installed by approved contractor Nimbus Solar Ltd. Designed in-house by Garland's Solarise team, the system features 177 Solarwatt Classic 2.5 AM panels optimised for maximum rooftop output. The installation was seamlessly integrated with the roofing works, with both elements covered under Garland UK's comprehensive Single-Point Guarantee, which takes full responsibility for design, materials, and workmanship.


During Construction


During Construction

Outcome

The project has significantly improved the building's performance and long-term sustainability. The StressPly Flex Plus system now delivers robust, watertight protection alongside enhanced insulation, ensuring comfortable internal environments and reduced heat loss. The Solarise PV array is forecast to generate 79,512 kWh per year, substantially offsetting the school's energy demands and delivering significant annual savings, with an estimated return on investment within 4.5 years.

Environmentally, the system will prevent 17,254 kg of CO_2 emissions each year, reinforcing the school's commitment to sustainability and contributing to national net-zero goals.

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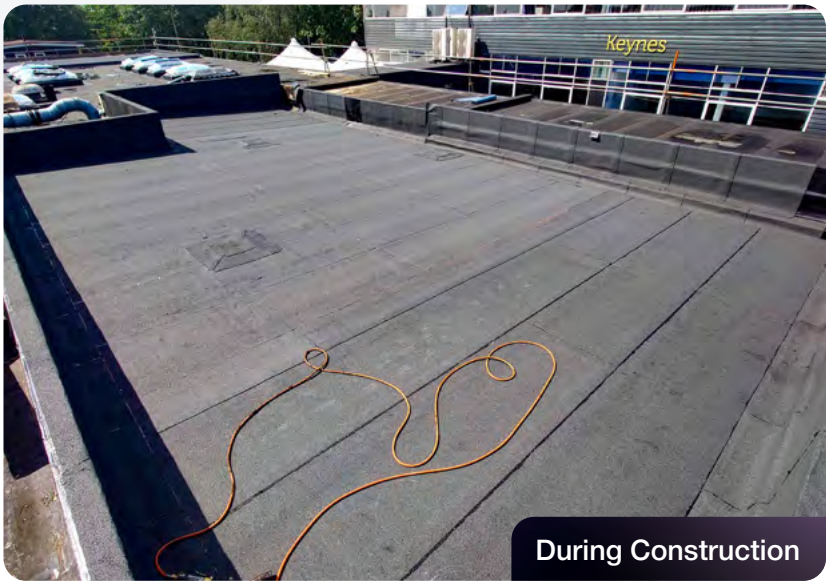
By delivering both the roofing and solar solution under a Single-Point Guarantee, the school benefits from simplified maintenance planning, reduced long-term risk, and a clear line of accountability, crucial for estates teams managing complex facilities portfolios. The completed scheme ensures compliance, lowers operational costs, and secures long-term performance.

As Sam Rigden reflected, ***"This project reflects everything Garland UK stands for, technical precision, proactive support, and a service-led approach that puts the client's needs first. From our initial condition survey through to the integration of solar PV, we worked closely with the school and Carré to design the optimum solution. It wasn't just about replacing a roof, it was about delivering long-term value, reducing energy costs, and helping the school move towards a more sustainable future."***

Towers School now moves forward with a watertight, future-ready roof, one that supports education today and sustainability for years to come.

> ***"The completed scheme ensures compliance, lowers operational costs, and secures long-term performance."***



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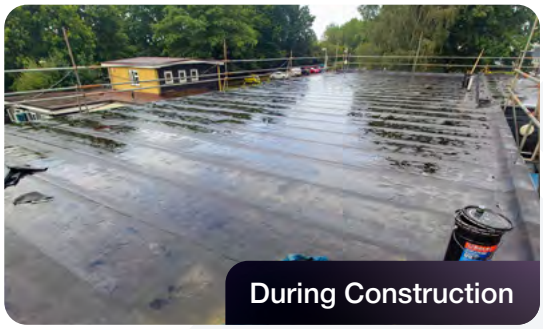
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