



Princess of Wales Hospital

WATERPROOFING: Airtile® Slate

PROJECT SIZE: 10,000m²

PROJECT LOCATION: Bridgend

Your Complete Roofing Solution

Environmentally Focussed | Responsibly Sourced | Ethically Driven



ALUMASC
ROOFING

Princess of Wales Hospital, Bridgend

Project Overview

Like many of the UK's busiest hospitals, the Princess of Wales Hospital in Bridgend was constructed over 40 years ago in the 1980s. The Princess of Wales was built to replace the original Bridgend General Hospital, and saw its official opening by Diana, Princess of Wales, on 11th June 1986.

The hospital has required various updates over recent years, but in 2024, a series of serious leaks pushed the roof to the top of the priority list. The original roof construction had not allowed for adequate ventilation, which led to the wooden roof battens becoming damp and rotten. Rainwater had been trapped beneath the original tiles, leading to complete roof failure. This called for a comprehensive structural survey that revealed a full replacement would be necessary.

The severity of the water ingress meant that almost 200 patients had to be relocated within the hospital, and those requiring operations had their surgeries performed at alternative facilities across the region. Six main operating theatres had to be closed, and the intensive care unit was also moved elsewhere within the Princess of Wales building. As there was nothing structural to separate the roof from the patients beneath, it was declared a critical incident, and staff rallied to ensure patients were cared for properly during the disruption.

The re-roofing project, which spans over 10,000m², cost the Welsh Government almost £28million, including the cost of re-opening the wards and bringing vital services back to Bridgend.

Client Brief

The original roof was traditional slate tiling, which carried significant weight. The client required a more lightweight replacement, with robust guarantees against water ingress.

Vegetation build-up in the original gutters had also been a contributing factor to the failed roof, so ease of maintenance was a priority in the specification of the new system, to safeguard against this problem in the future.

To meet the project's demanding timeline, the client turned to Alumasc for a fast, reliable response and nomination of an experienced registered contractor. As the hospital remained fully operational throughout the works, careful consideration was given to working methods both internally and externally to ensure minimal disruption to staff, patients and visitors.

Solution

Alumasc worked in close partnership with registered contractor Wales Roofing Solutions to carry out an urgent full site survey. Work started almost immediately in November 2024.

The roof weight issue was addressed by the specification of over 10,000m² of Alumasc Airtile; a lightweight, low maintenance system designed to mimic the appearance of traditional slate. This represents our largest installation of Airtile to date.

The Airtile system was installed with a 0.45mm batten gauge to the main expanses of roof area, with a vandal-resistant 0.9mm batten gauge in a contrasting colour for the walkways, to aid gutter maintenance.



Airtile is BBA approved, ISO 14001 certified, and manufactured using ISO 9001 approved materials. It is Fire resistant to AA classification: equal to traditional roof tiles and slates. Importantly, the system offers quick installation times, which were key for the Princess of Wales roof in order to get the hospital back up and running as normal within the most efficient timescale.

The completed roof is backed by a 40-year-guarantee against weather penetration.

Waterproofing Excellence

The link roofs at Princess of Wales Hospital were installed with Alumasc's Derbigum high performance waterproofing membrane.

Derbigum is BBA certified and achieves a fire classification of BROOF(t4) in accordance with BS EN 13501-5. It has a proven track record dating back to 1967, and is subject to the highest levels of testing and certification. With correct installation and regular maintenance, it can achieve a lifespan exceeding 50 years.

The Derbigum membrane, working together with the main Airtile installation, presents a modern roofing solution, capable of withstanding the daily rigours of such a demanding public building.

Single-Source Environmental Solutions

Phase one of the hospital re-roofing works included the installation of rooftop solar panels, which will generate half the hospital's energy.

To complete Alumasc's installation, the new solar panels were accommodated using Alumasc SolaCell PV mounting supports installed direct to the roof covering. Alumasc SolaCell provides an integrated, custom-engineered solution benefitting from penetration-free assembly on the roof, ensuring uncompromised waterproofing performance.

Outstanding Results

Alumasc's on-site technical support, together with the top-quality installation carried out by Wales Roofing Solutions, has resulted in an impressive new roof delivered within exacting deadlines. This large-scale upgrade has secured the future of one of the most important care facilities in South Wales providing critical improvements to building and energy performance, and peace of mind for the Health Board, its staff, and its patients, long into the future.