

## CASE STUDY

# Replacement zinc standing seam roof with solar PVs



The Lighthouse Wards at Princess Elizabeth Hospital, Guernsey comprise three single storey wards containing 60 continuing care units for elderly patients.

**Project:** Princess Elizabeth Hospital, Guernsey – Lighthouse Wards

**Client:** States of Guernsey Health and Social Services Department

**Architect:** [Naftel Associates](#)

**Specialist Roofing & Cladding Contractor:** [Sarnian Roofing](#)

**Zinc:** [NedZink NOVA](#)

The Lighthouse Wards at Princess Elizabeth Hospital, Guernsey comprise three single storey wards containing 60 continuing care units for elderly patients. The buildings accommodate elderly patients with mental health problems and enable people with long term care needs to live and be cared for by professional and experienced staff 24 hours a day.

Unfortunately, after only a few years, the plain tile roofing on the wards failed. It was replaced by a zinc standing seam roof supplied by SIG Zinc & Copper.

### Failed tiled roof

SIG Zinc & Copper were approached by the hospital's architect, Naftel Associates, after the tiled roofs on buildings failed just five years after installation. On inspection, it transpired that the tiles had been installed at too shallow a pitch, and water ingress had damaged the roof structure causing complete failure.

The architect wanted to use zinc as an alternative roofing material and we confirmed it was suitable. zinc was chosen for its modern appearance and its low-maintenance credentials.

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The entire roofing structure above the rafters was water damaged, so the project involved

1. Removal of existing tiles, batten, felt & insulation, followed by
2. Installation of a new 18mm plywood deck,
3. A continuous Alutrix 600 vapour control layer bonded to the deck,
4. 108mm Metdeck insulation board,
5. Klober Promo-Sec structural underlay, and
6. Installation of the shiny new NedZink NOVA standing seam metal roof.

The Klober Promo-Sec structural underlay provides an air space below the metal deck, a cost-effective alternative to using zinc with a coated back surface. It must be installed with the proper 28mm fixing clips so as not to compress the underlay, but with SIG Zinc & Copper supplying the materials and policing the installation from the deck up, and with experienced, reliable contractors, this is not an issue.

### The replacement zinc roof installation

The work was carried out by Guernsey contractor Sarnian Roofing who have completed several projects with SIG Zinc & Copper supplied products. The new roofs were installed on the first ward block in a 10-month period with no disruption to the patients whilst the continuing care units were in use, providing considerable comfort for the administration of the hospital who did not need to arrange decanting whilst the works were carried out. All three wards were carried out in phases over a year, and Sarnian installed a temporary roof with full scaffolding each time so that they could work underneath and the residents could remain safe and happy.

### Photovoltaic panels on standing seam roof

Some of the wards are also fitted with photovoltaic panels, which are very simple to install with a zinc



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standing seam roof. Unlike tiles, the metal is self-cleaning so that there is no moss build-up under the panels.

The panels for the Lighthouse Wards were installed using the S-5-PV Kit, a fixing system which attached direct to the standing seams on the roof, producing no penetrations whatsoever and leaving a 40mm space underneath the panels which washes through with the rain. The installation was monitored by SIG Zinc & Copper who ensured that the cable penetrations were taken through the eaves and not the roof finish.

The S-5 fixings produce a PV installation which not only works well but also looks very neat and clean. The same fixing clips can also be used for man-safe systems and snow guards if required.

### Hospital verdict on their replacement standing seam roof

So, what do the users of the Lighthouse Wards think of their new roofs? Reports are that the staff are very pleased with them. The new construction is a lot



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warmer and heating costs have understandably reduced. Whilst nurses were initially concerned about rain noise, we could confirm that this is not a problem with this type of construction, and there have been no issues since the roofs were installed in 2016.

SIG Zinc & Copper has guaranteed the new roofing system for 20 years on both materials and labour. We expect the roofs to keep their residents warm, dry and quiet for years to come.

### More information

SIG Design & Technology has put together an 8-step guide to identify the challenges and ensure that a roof's design meets a building's requirements. Called “#Perfect Roof”, the eight steps follow the process from product selection and design expertise through to full guarantees and planned maintenance. This know-how is just part of the service that is provided free to customers.

- Watch a video of the installation on the first unit here: <http://bit.ly/StandingSeamRoofVideo>
- Read more about NedZink products and its sister products, download datasheets, BIM objects and documentation, and view a gallery of images: <http://bit.ly/NedZinkNOVA>
- Find out more about Standing Seam Roofing Design <http://bit.ly/StandingSeamRoofing>
- Thinking about specifying standing seam zinc roofing? Talk to the experts! Call SIG Zinc & Copper on 0330 123 1820 or visit [www.sigzincandcopper.co.uk](http://www.sigzincandcopper.co.uk)

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