



SIKA AT WORK

REDWITHER TOWER, WREXHAM, NORTH WALES

ROOFING: Sika Sikalastic®-625, S-Vap 5000 SA, Sikatherm® insulation (tapered), PVC Primer and C-250 adhesive





DURING



SIKA® LIQUID PLASTICS TAKES OFFICE ROOF FROM INVERTED ISSUES TO TAPERED WARM ROOF

BACKGROUND

A former mill building that was converted to an office building around 15 years ago, Redwither Tower is located on Wrexham Industrial Estate and owned by Wrexham County Borough Council.

The original change of use refurbishment included the installation of a single ply inverted roof finished with more than 18,000 paving slabs across the 6000m² roof area. Sagging of the original stone substrate in the centre of the roof meant that there was no rain water run off to the gutters at the perimeter of the roof; instead rainfall was pooling on the roof, saturating the insulation and causing ponding water under the paving slabs that accelerated the end of the roofing system's service life.

A new roof was required to address the issues with drainage while managing the cost and disruption of the work in an occupied commercial building.

REQUIREMENT

The aim of the project was to refurbish the roof, while modifying the roof build up in a way that would prevent future issues with standing water. In order to achieve this, there was a requirement to convert the existing inverted roof build up to a warm roof build-up using tapered insulation to create falls to aid drainage.

As the project was to involve lifting 18,000 paving flags to refurbish the roof beneath them, it required a system that would be fast and easy to install and a liquid applied membrane was the chosen approach.

There was also a requirement to replace the existing rooflights with new custom-fabricated units that could be installed in the existing apertures.

The chosen system had to offer an extended service life with a robust guarantee.

SIKA® LIQUID PLASTICS SOLUTION

Following a site audit and condition survey by a Sika Roof Refurbishment Area Technical Manager, a technical specification was produced and Sika Liquid Plastics Certified Contractor, LRL Roofing Solutions was appointed to carry out the work.

The contractor divided the project into six phases, beginning with the area at the furthest point and moving towards the building's entrance. Roof top plant, including air conditioning units and solar panels, were disconnected and stored on an area of the roof that would not be affected until a later phase, apart from two air handling units which provide business critical infrastructure for the building's IT systems.

For each roof area, the LRL Roofing Solutions team lifted the paving slabs and stripped out the perished insulation before carrying out any repairs required to the existing roofing membrane.

The existing membrane was used as the air and vapour control layer (AVCL) and the contractor used Sika® Liquid Plastics' PVC primer to prepare the surface. Sika® Liquid Plastics' spray-applied C250 insulation adhesive was then used to fix the Sikatherm® insulation to the roof. The tapered insulation varies from 40mm at the gutter to 275mm at the highest point, creating a fall of 1 in 80 for the new roof build-up.

Sika® Liquid Plastic S-Vap 5000 self-adhesive membrane was installed onto the insulation prior to the installation of the Sikalastic®-625 liquid applied membrane. To further increase the speed of application, LRL used the Sika Power Roller, A lightweight unit that uses unique spray-head technology to deliver a controlled flow of liquid membrane onto a roller-head. When each section of roof cured, the paving slabs were returned to their original position.

In addition to replacing the roof build-up, LRL Roofing Solutions team also stripped out the existing 24 rooflights and replaced these with custom-fabricated Decolight rooflights in the existing apertures, renewing all the detailing.

PROJECT PARTICIPANTS

Contractor: LRL Roofing Solutions
Roofing Client: Wrexham County Borough Council
Size: 6000m²



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