SIKA AT WORK

COMBATTING UNPREDICTABLE WEATHER CONDITIONS TO UNDERTAKE THE UK'S **HIGHEST FLAT ROOFING INSTALLATION**

ROOFING: SIKASHIELD® REINFORCED BITUMINOUS WARM ROOFING SYSTEM

BUILDING TRUST

HAFOD ERYRI

HAFOD ERYRI, LOCATED AT THE SUMMIT OF YR WYDDFA (SNOWDON), SITS AT 1,065M ABOVE SEA LEVEL, MAKING IT WALES'S HIGHEST AND MOST EXPOSED VISITOR CENTRE. THIS ICONIC AND STUNNING STRUCTURE, WHICH HAS WON SEVERAL ARCHITECTURAL AWARDS, BLENDS SEAMLESSLY INTO ITS DRAMATIC MOUNTAIN SURROUNDINGS.

Despite the building's aesthetically pleasing appearance, its existing roof system – a structural block and beam construction with an inverted EPDM membrane – had significantly deteriorated, causing substantial leaks, water ingress, and damage to the building.

Consequently, the roof's ballast layer needed to be carefully and methodically removed in sections in order to expose the failing rubber membrane before being replaced with a high-performance SikaShield® Reinforced Bituminous Warm Roofing System. This would ensure a robust and watertight solution capable of withstanding the harsh environment.

Given the centre's iconic but challenging location and the resultant extreme exposure to the elements, this was to be no ordinary project. Indeed, substantial challenges would need to be overcome, such as the transportation of materials and working within unpredictable mountain weather conditions that had the potential to cause unavoidable delays.

In fact, the extreme mountain weather played a significant role in the project's ability to progress. For instance, if the gusts of wind reached 50mph or higher, the Snowdon Mountain Railway – an essential form of transportation for workers and materials – would not operate, resulting in unexpected delays. Meticulous planning and flexibility were also required to resolve the often-hazardous working conditions caused by frequent high winds, freezing temperatures, heavy rain, and poor visibility.

Given the logistical constraints of the visitor centre's remote location, careful management of materials was absolutely imperative. Each day, the project team were required to precisely coordinate which materials were to be brought up and down the mountain. This ensured minimal waste while also adhering to strict weight limits imposed by the railway.

The roofing removal and replacement also took place directly above a busy and live café that was a popular destination for visitors at the summit. To prevent water leaks from entering the building during installation and avoid disruptions to guests, an extraordinary level of care was required, exacerbating the need for incredible precision, constant monitoring, and effective communication between all involved.

To meet the roofing needs of the visitor centre, Sika® created an expansive and flexible specification package, including its SikaShield® Reinforced Bituminous Warm Roofing System. These membranes are formed of a reinforced polymer modified bituminous compound that provides a high-quality roof waterproofing solution.

This product was chosen for the Hafod Eryri project due to its durability, resilience, and proven waterproofing capabilities – essential given the location of the visitor centre. Given the challenges of working in such an extreme environment, ensuring the roof achieved its full design lifespan was imperative.

At the project's outset, the roof buildup was unknown due to the 500-1000mm of stone ballast covering the structure and the absence of as-built drawings. Sika® worked closely with the contractor to adapt the design and specification following exposure of the roof, ensuring the highest quality installation of the new membrane while maintaining Sika®'s approval and on-site buildability.

Careful excavation was required due to the roof's load constraints and the weight of the existing ballast. Consequently, a 2.7-ton excavator was brought to the summit via train, demanding a highly skilled plant operator to navigate safely through a busy area that was frequented by mountain walkers.

Spreader plates were used to distribute the excavator's load, preventing point loading on the roof. The ballast was strategically spread across the roof area to maintain balance, and careful planning ensured no backtracking over completed sections, preserving Sika®'s warranty.

Following the safe and methodical removal of the roof's ballast layer, a Sikatherm® tapered insulation scheme was installed to improve drainage efficiency and reverse some of the existing falls within the building's deck.

Stone cladding on the walls also had to be temporarily removed to allow the contractors, OBR Construction, to extend the reinforced bituminous roofing system onto the structural walls. Once finished, ballast was accurately relayed to restore the natural aesthetics of the mountain landscape, ensuring the visitor centre once again blended seamlessly into the Yr Wyddfa.

Offering a unique solution to the challenge of spreading the weight of the walls and ballast over the roof and keeping within the insulation max point loading, the drainage layer kept mountain silt away from the roof system to ensure effective drainage of water.

To ensure the roof installation adhered to specification, Sika® regularly conducted site inspections throughout the project. The final guarantee was then released upon confirmation of compliance.

Close collaboration played a vital role in the success of the project, with the client particularly supportive in taking on the heightened weather risk and absorbing the majority of the financial risk in relation to the inclement weather. This enabled the contractor to undertake the work in preferred weather conditions, increasing the project's quality assurance.

With the site being so remote, all operatives had to complete a three-day first aid training course prior to the project's commencement. Furthermore, the site supervisor underwent a mountain leader course to equip him with the skills and knowledge to assess the unique risks associated with the mountain terrain and make informed decisions.

The close collaboration during the project, along with the durability and resilience of the SikaShield® Reinforced Bituminous Warm Roofing System will ensure the Hafod Eryri visitor centre is protected against the elements for the foreseeable future.

PROJECT PARTICIPANTS

Client: Eryri National Park Authority (ENPA)
Contractor: OBR Construction

Our most current General Sales Conditions shall apply.
Please consult the Data Sheet prior to any use and processing.

SIKA LIMITED
Head Office
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
United Kingdom

Contact
Phone +44 1707 394444
Fax +44 1707 329129
E-Mail enquiries@uk.sika.com
www.sika.co.uk

BUILDING TRUST

© Sika Limited, UK / Case Studies / Roofing / SikaShield Reinforced Bituminous Warm Roofing System /CD/072025