Project case study

Uskmouth substation

Product

PowerSand® CBS Extra

Main contractor

Jones Bros Ruthin Civil Engineering Ltd

Project overview

Heidelberg Materials supplied PowerSand CBS Extra to support the development of a major battery storage facility at the former Uskmouth coal-fired power station, enabling the transition to renewable energy infrastructure. The low carbon cement bound sand backfill meets the requirements of ENA TS 97-1, providing a reliable solution for underground high-voltage cables.

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Project description

The Uskmouth Substation project in Newport, Wales, is a landmark development in the UK's renewable energy transition. Led by Jones Bros Ruthin Civil Engineering Ltd, the project involves constructing a 230MW battery energy storage system (BESS) on the site of a former coal-fired power station. This facility will store surplus energy from solar and wind farms, helping to balance the grid and support a more resilient, low-carbon energy network.
Heidelberg Materials supplied 1,000m³ of PowerSand CBS Extra from our Cardiff and Bridgend plants between March and May 2025. PowerSand CBS Extra was chosen for its high performance in cable bedding applications, offering excellent compaction and thermal conductivity—critical for the safe and efficient installation of underground cables. In addition to its technical advantages, PowerSand CBS Extra also provides a lower carbon alternative to traditional backfill solutions, supporting more sustainable infrastructure development.
Our team worked closely with the contractor to ensure timely deliveries and technical support throughout the project. The tight construction schedule required flexibility and coordination, which we met through proactive planning and responsive service. Our ability to adapt to evolving site needs was a key factor in the project's success.
This project is particularly notable for its transformation of a legacy fossil fuel site into a hub for clean energy storage. It reflects the growing demand for sustainable infrastructure and highlights how innovative materials like PowerSand CBS Extra can contribute to decarbonising the built environment. As the UK continues to invest in renewable energy, the Uskmouth Substation stands as a model for future developments. Heidelberg Materials is proud to have played a role in this forward-looking project, delivering materials and expertise that support a cleaner, more sustainable energy future.
Rhys Roberts, Contract Manager, at Jones Bros Ruthin Civil Engineering Ltd, commented:
"Delivering a project of this scale on a legacy industrial site came with its fair share of challenges—we had tight construction timelines and complex logistics to the need for materials that met stringent technical and environmental standards. Heidelberg Materials' PowerSand CBS Extra provided the performance we needed for safe and efficient cable installation, and their team was incredibly responsive throughout. Coordinating deliveries across two supply sites while adapting to evolving site conditions was no small feat, but their proactive approach and technical support helped keep the project on track. It's been a pleasure working with a supplier so committed to quality and sustainability."