

Structural Drainage

Deckdrain, Precast –Concrete Arch Bridge,
A465 Heads of the Valleys, UK



Project Description

The A465 'Heads of The Valleys' is a strategic east west link road in the south of Wales linking the A40 at Abergavenny to the M4 at Llandarcy. As part of a re-generation of the Heads Of The Valleys area the road was upgraded to dual carriageway standard. One of the many structures chosen on the project was a concrete arch bridge consisting of pre-cast units which are assembled on site. These bridges use the soil-structure interaction to build economic high overload structures. The bridge constructed on the Gilwern and Brynmawr section of the carriageway is believed to be the widest spanning concrete arch bridge in the world.

The Challenge

As part of the design the external surfaces of the bridge are waterproofed and a drainage system is required to relieve pore water pressure on the crown of the structure. A cost effective, quick installation without the need for specialist handling equipment, and without overloading the structure or damaging the waterproofing during construction, was necessary. Porous blocks were an expensive solution and presented logistical and construction difficulties, whereas no-fines concrete required complex form work leading to installation difficulties.

Project Information

Client Welsh Government

Contractor Costain

Consultant Atkins

Products Deckdrain 400SD/NW8

Quantity 2500m²

- Benefits
- Flexible and easy to install over curved structure
 - Protects waterproofing
 - High flow capacity



ABG Deckdrain

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The Solution

ABG Deckdrain was selected as a solution which offered many practical benefits. **ABG Deckdrain** was robust enough to protect the waterproofing but flexible enough to easily follow the profile of the concrete bridge arch structure. It is light-weight and easy to handle so no specialist equipment was required. **ABG Deckdrain** provides manufacturer assured drainage capacity for the lifetime of the structure. Furthermore, it was supplied in rolls to make the logistics of delivery and storage much easier compared to other traditional options which required far more vehicle movements to and from site.

The ABG Service

ABG provided a full technical support service from design to manufacture. **ABG** provided all the required technical detail for **ABG Deckdrain** to be assessed and approved by Atkins and the Welsh Government.



Balanced backfill operation against each abutment



Arch units ready to receive waterproofing and Deckdrain drainage/protection geocomposite



Deckdrain Contributes to the very installation of the bridge.

Contact ABG today to discuss your project specific requirements and discover how ABG past experience and innovative products can help on your project.