



## Repair & Strengthening of Fire Damaged Structure

Secklow Gate Bridge, Milton Keynes

**Client**  
Milton Keynes Council

**Consultants**  
Mouchel

**Principle Contractor**  
Birse Civils

**Value**  
£120,000

**Works Commenced**  
June 2011

**Works Completed**  
July 2011

Secklow Gate Bridge is located in Milton Keynes city centre, carrying a dual carriageway over the town's market in the central shopping area. Beneath the deck is an outdoor market, where a fire broke out in January 2010 causing significant damage to structural elements of the bridge.

The closure of the bridge for over 12 months caused local controversy, with people having to take detours around the grid-based city centre, which caused congestion on surrounding roads.

Freyssinet Limited were appointed by Birse Civils to carry out repair and strengthening works in order to restore the structural integrity of the bridge, and allow it to once again open to traffic.

The scope of works involved the replacement of 3no fire damaged mechanical bridge bearings, concrete repairs and the installation of carbon fibre reinforcement to the soffit of the bridge deck.

Fire-damaged concrete was removed using hydro-demolition and reinstated with sprayed concrete.

Due to the location of Secklow Gate Bridge in the middle of a busy shopping precinct, stringent management of high risk activities such as these was required to protect members of the public.

CFRP product was bonded to the soffit of the deck in four layers, in accordance with the Client's design.

Due to the negative publicity surrounding the closure of the bridge, the contract programme was tight and Freyssinet engaged in 24 hour working in order to achieve the Client's specified date for completion.

After being closed to traffic for 18 months the bridge was reopened to vehicular traffic, on the date advertised by Milton Keynes Council, in July 2011.



- 1 The fire damaged structure
- 2 Soffit repaired with sprayed concrete
- 3 Fire damaged bearing / New bearing in place
- 4 Application of carbon fibre

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