



## Beautiful Basements Case Study Car Park Deck Waterproofing – Ampthill

**Client**  
**Waterproofing Designers**

**Storey Homes Ltd.**  
**Beautiful Basements**

### Background

An underground bicycle storage area was created during a large redevelopment of an old mansion and creation of new dwellings in Ampthill, Bedfordshire.

When the store was built, there was no coherent waterproofing design and it began to leak through the walls and car park deck above.

Beautiful Basements was asked to design and install a waterproofing system that would create a dry storage area and be capable of withstanding the loads of moving cars above.

### Construction Method

The store was built off a concrete slab, with two skins of 7KN blockwork with a reinforced concrete infill. The deck above was created with a block and beam floor spanning from side to side.

To allow for waterproofing, a 150mm reinforced concrete slab was linked to the blockwork walls and over the block and beam floor. This floor was laid with a 15mm fall from front to back to prevent water pooling on top of the deck. This new concrete, the blockwork and the floor slab in the store below were rigorously cleaned in preparation for the waterproofing.

### Waterproofing Method

#### Store – Type A Barrier Protection

Defects on the walls and slab were repaired with waterproofing mortars and rapid setting waterproof plug. Fillets were laid around the wall/floor junction and all other internal angles and then two coats of a hydrophilic cementitious slurry were applied on all walls and the floor.

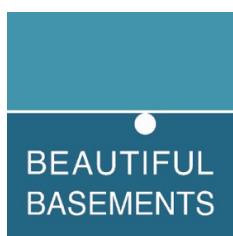
#### Deck – Type A Barrier Protection

A thick, 2 coat bitumen with fibreglass mesh reinforcement was sprayed over the new structural concrete to prevent water entering the store below. Geotextile covered cavity membranes were then laid on top of the bitumen and linked to a drainage channel running across the front of the deck. To protect the bitumen, tarmac was laid on top of the drainage membrane, creating a new car parking spot.

Waterproofing materials were supplied by Köster UK

### Build Programme

6 days



**Basement Build**  
**Conversion**  
**Retro-fit**  
**Waterproofing**

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