

# A CONCRETE GHOST RISES IN WARWICKSHIRE, UK

This unique and award-winning home, “Ghost House” hides most of its edifice below ground. Utilizing cast-in-place concrete that remains exposed throughout, the home includes a cinema, rare shoe collection, and multiple guest bedrooms nestled below two reflection ponds in the courtyard above. Because of this, protection from water ingress was of the utmost importance.



Photography by Felix Mooneeram

## PROJECT

The Ghost House

Architect:  
BPN Architects

Design Engineer:  
Webb Yates

Certified Installer:  
Jon Johnstone Construction Ltd

## LOCATION

Warwickshire, United Kingdom

## PRODUCTS

VOLTEX® DS waterproofing  
membrane

WATERSTOP-RX® expanding concrete  
joint waterstop

Known as “The Ghost House” because of its pale, ethereal appearance and its sunken construction that hides most of the edifice below ground, the bespoke home in Warwickshire, United Kingdom takes its inspiration from Japanese architect Tadao Ando. The Ghost House is unique in this quiet hamlet not just for its yawning spaces and contemporary architecture, but also for its cast-in-place concrete construction, which has been left bare throughout the house to display the unique beauty of the material.

### CHALLENGE:

The owner set the bar for the project with the simple statement, “I don’t like normal.” In a neighborhood of 1960s-style houses peppered with examples of eclectic architecture examples, the owner spent nearly ten years and significant resources obtaining permissions to bring his concept to life: a sleek and minimalist home with bare concrete and a black steel grid look.

With features that include an external stair leading down into a sunken courtyard, the owner was dedicated to a design that evoked the unparalleled designs of Tadao Ando. That meant an entirely concrete construction, cast in-situ, for the unique texture that would define the exposed surfaces throughout the house, both exterior and interior.

This precise vision left no room for error in design and installation of waterproofing, as any defects resulting in water ingress, as well as any remedial solutions, would be obvious—and unalterable—for the lifetime of the structure.

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### SOLUTION:

To achieve a defect-free basement, BPN Architects, working with Jon Johnstone Construction Ltd., chose CETCO Europe Ltd. as the waterproofing supplier. Having collaborated on numerous previous projects, Jon Johnstone had full trust in CETCO's solutions, waterproofing experience, and ability to execute a complex project.

To meet the project's high expectations and requirements, CETCO defined a solution for a defect-free basement that combined an integral system with an external waterproofing system.

For the cast-in-place concrete used in the structural elements, a Type B waterproof concrete was selected to help ensure the basement walls were resistant to water ingress. These structural elements were then protected with a layer of CETCO VOLTEX® DS Type A waterproofing membrane. With its low permeable sodium bentonite encapsulated between interlocked geotextiles, CETCO was able to provide a monolithic waterproofing membrane to help keep water away from the below-grade external concrete surfaces. Further, all construction joints were fitted with CETCO WATERSTOP-RX® 101 expanding concrete joint waterstop to provide a positive seal where construction surfaces joined.

### RESULT:

With the nature of Ghost House's bare, unfinished interior surfaces, any water ingress would be immediately evident. More importantly, the home features a cinema and rare shoe collection in the basement, making 100% protection from any water ingress imperative. The careful and thorough approach to its waterproofing has paid off, with no water issues so far.

Completed in 2018, the unique and compelling vision that is the Ghost House won the 2019 RIBA (Royal Institute of British Architects) West Midlands Award. It's been featured in media and magazine covers and was highlighted in a series presented by the Chicago Museum of Architecture as a house that has redefined architecture in the 21st century.