

December 2018



The Executive committee wish all our members and their families a very happy Christmas and a prosperous New year

Robot is doing away with Bricklayers

A three-bedroomed house has been built by an Australian robot, Hadrian X in less than three days. It was the robot's first full-home structure and was completed in a total elapsed time of less than three days. This achieves a milestone set by the company, Fastbrick Robotics (FBR), in 2015.

The house has an area of 180 m² and includes two bathrooms as well as the three bedrooms. Construction followed factory acceptance testing (FAT) at FBR's test facility, where the Hadrian X was put through its paces on three key tasks: a two-course structure with

a full combination of brick sizes, cuts and laying configurations;



- an 11-course pillar structure to demonstrate the Hadrian X's ability to build from slab to cap height;
- a two-room structure demonstrating the Hadrian X's ability to build a larger structure on a slab from a 3D CAD model with the required accuracy.

Hadrian X then started work on its first full home structure. After completion, the structure was verified as meeting the relevant building standards by a civil and structural engineering consultancy group.

Counter Terrorism Blocks

Tarmac has produced a new building block that is claimed to have unrivalled blast protection qualities. **A pair of BBX blocks** BBX is a construction system that provides dual protection against blast and ballistic threat, uniquely achieving C15 blast resistance and BR7 ballistic resistance.





The BBX block system is similar to concrete blocks, composed of cement and fine aggregates, but with a difference, using bespoke materials instead of stone aggregate as part of the mix. This material provides the block with substantial tensile capacity and vastly increased shear modulus, allowing the product to flex under force and dissipate the energy of a bullet and blast overpressure and preventing internal spalling.

When compared to reinforced concrete and other equivalent blast or ballistic related materials, the BBX blocks are the same weight as a normal solid dense concrete block, and can be installed using traditional methods, incorporating their thin joint system.

Tarmac Building Products head of new product development Paul Beswick added: "BBX means for the first time we are able to use a single solution to terrorism and other armed threats. The system uses standard construction methods – this means building design is not negatively impacted and constructions costs can be kept down because the installation is both straightforward and time-efficient."

Pictured below is a BBX wall after being fired at with 30mm Rarden cannon shells fired from a Warrior IFV F510. The photograph shows the three rounds fired into each of the three target areas at the wall, with no penetration.



New NHBC Standards

The upsurge in the use of modern house – building methods of construction has played a key role in determining new NHBC Standards coming into force in January.

The new guidelines will come into force for new homes where the foundations are begun on or after 1 January 2019.



NHBC Standards 2019 will introduce the first major update to Chapter 6.10 'Light Steel Framing' (LSF) since it was first published in 2005. Interest from the offsite sector and advances made by the light steel frame industry have driven the review and focused attention on areas where guidance for the appropriate use of technology is needed. The increased use of modular systems using LSF has resulted in Standards 2019 adding considerations to the stage 1 certification that should be considered in the manufacturer's system manual. Chapter 6.2, which focuses on external timber framed walls and Chapter 8.1 - internal services in relation to boiler flow rates - have also been updated, along with a number of additional minor changes on a range of issues. NHBC standards & technical manager Paul Cribbens said: "NHBC's dedicated team have spent the past year developing technical content and updates to form the new standards, working with other partners and organisations from across the industry. The increased interest in MMC has contributed to these changes and we hope that these revisions will continue to help in raising standards of new home quality for the benefit of homeowners."

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