

Tudorstone Building Materials Ltd, Retford, DN22 8RB (Road Map), Nottinghamshire, UK

Modern concrete block making equipment for Tudorstone, UK

One of the leading UK manufacturers for concrete products, Tudorstone, required a replacement machine to be built within the existing factory dimensions, and to produce high dimensional accuracy concrete bricks and parent blocks, which are split, pitched and aged in a secondary process, to be sold as walling blocks. Although the UK construction industry is going down recently, the new Tudorstone Retford plant is still running at high capacity. One of the main aspects for this is their advantage of having modern concrete block making equipment that enables them to produce at lowest cost highest quality products.

Tudorstone Building Materials Limited - Background, History and Project details

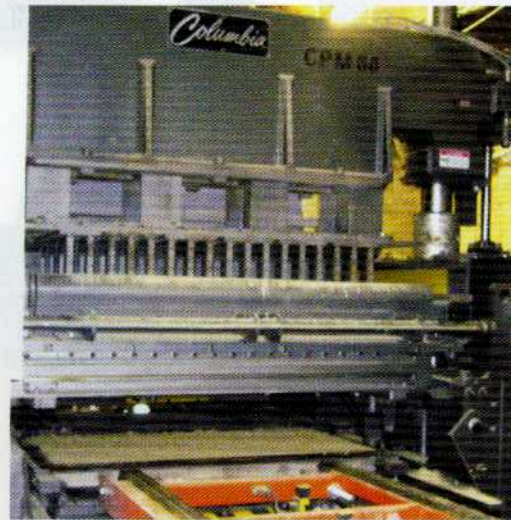
Tudorstone Building Materials Limited was established in 1998 by Co-Owners Roy Howe and Bill Howe, and manufacture Reconstituted Concrete Split Walling stone, Architectural Cast Stone and Concrete Bricks. Prior to the recent capital investment programme the factory at Retford in Nottinghamshire had the capacity to produce 200,000m² of Reconstituted Walling Stone, 10,000,000 Concrete Bricks and 1,000m³ of Cast Stone per annum. During 2006 a fully automated splitting, pitching, rumbering and packaging system had been installed to automate the secondary processing of the walling stone parent units. Prior to the project the walling stone operation employed 12 men, however, this is now reduced to 5 men. Two men are employed on the brick production and two men on the Cast Stone plant.

During 2007 the decision was made to install a new block plant with a number of specific objectives for the project:

- Increased output of Concrete Commons to give capacity of 20,000,000 pa
- Capacity to produce very dense and dimensionally accurate standard sized parent walling stone blocks to enable the production of an additional 200,000 m² of walling stone
- 8 hour turn around of product by curing in a temperature and humidity controlled environment
- A minimum 5% reductions in cementitious content of the concrete mix
- Production of voided packs of bricks to remove the need for pallets
- Maximum of two man operation
- Quick mould change over time to minimise downtime

The new plant was replacing a 28 year old block machine and automated handling system. The plan was to build up stocks of bricks during January and February 2008 before demolishing the existing buildings, scrapping the old plant, preparing the civils and foundations for the new buildings and equipment. Erection of new buildings was scheduled prior to the arrival of the block machine, racking and handling system in April. Production ceased on the 7th March and the press arrived on the 28th April. The new plant was commissioned and signed off on the 26th June 2008. Total project time was 16 weeks, with the curing racks taking three weeks, the Columbia press three weeks and the handling and packaging system 8 weeks.

The curing hall is 30m x 10.5m x 6.5m high. The hall is surrounded by existing buildings on two sides and the new production buildings on the other two sides. To save costs the Aluminium Racking was designed to carry insulated roof panels and side



Front- and back view of the CPM 60 block making machine from Columbia

sheeting so that no additional building structure would be required. To save space the racks are accessed by a 180 degree rotating finger car.

The main production hall is 17m x 31m x 7.5m high (max). This space comprises the existing mixing and batching plant, (the mixer is situated directly above the new press), the press room, wet line, dry line, depalletiser grab, pallet storage area, pallet return conveyor, walking beam sorting table, pack building grab and roller out



Positioning of the steel pallets with magnets for the block machine

