Steam for Bricks & Roof Tiles

HUWA – Vandersanden Group

Faster production, lower energy costs and improved quality - from one of the oldest and most traditional manufacturing processes - has been made possible using the special properties of steam that is produced by a Clayton Steam Generator

The basic method of making clay bricks and roof tiles has remained the same since Roman times. Hard clay is transformed into a mouldable material by grinding and mixing with water. This mud is then formed into the desired shape and dried before being fired at high temperature in a kiln.

The process has, of course, become much more sophisticated over the years and one of the more recent improvements has been made possible by the use of a Clayton Steam Generator.

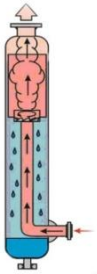
The secret behind the benefit of using the Clayton Steam Generator in the brick and tile industry is in the quality of the steam that it produces which is 99.5% dry saturated under all output rates. This means that there is never more than 0.5% moisture in the steam – which is the best quality available from any type of boiler.

When this dry steam is added in the clay mixer it goes where it is needed and helps produce a homogeneous mixture without pockets, that could lead to cracking and also prevents 'rolling' of the clay mass in the mix. In addition to this, the steam produces improved plasticity so the power required for extruding or pressing is much reduced.

The other benefit comes in the drying process because of the heat that the steam imparts to the green bricks and tiles before they are loaded into the dryer. Correct drying is essential to avoid cracking and to prevent the product exploding in the kiln. Drying is therefore a slow process and takes place under controlled humidity to prevent the clay from drying out too quickly - otherwise cracks will appear. The steam in the mix and the heating effect can actually reduce drying times by up to 45%. The throughput can therefore be increased and more energy is saved as a consequence.

The dry steam produced by the Clayton Steam Generator is formed by a unique method that has been developed over the last 80 years. All of the steam from the automatic, rapid start Clayton Steam Generator is passed to a special steam separator that gives a final polish to the steam before it is fed to the steam main.

The Clayton Steam Separator is of a high separation efficiency centrifugal design that has no moving parts. The incoming steam is passed over a set of vanes that causes a vortex effect so that any moisture is spun out, by centrifugal force, and drops to the bottom of the separator while the dried steam passes vertically upward.



The Clayton High Efficiency Steam Separator

The Clayton Steam Generator shown in the photograph is a model EG-154-1 that was supplied to HUWA Bricks of Hedikhuizen, Holland along with the necessary boiler house ancillary equipment. The complete boiler house is mounted on a structural skid as a packaged plant that only had to be

connected to the site services and started up.

The other advantages of the Clayton Steam Generator is that it is low in energy consumption, it starts in five minutes from a completely cold condition, is small in size, fully automatic and safe to operate.

HUWA is part of the Vandersanden Group which is the largest family run brick producing business in Europe with a total sales of around 60 million pavers and 320 million bricks per year.