

WORLD'S FIRST HYDROGEN-FIRED CLAY BRICK TRIAL

BACKGROUND

Michelmersh Brick Holdings PLC is Britain's clay product specialist with over 125 million clay bricks and pavers produced annually. Process Instrument Solutions was approached by Net Zero Associates in conjunction with Michelmersh Brick Holdings PLC to supply a suitable Mass Flow Meter for use in its world-first 100% hydrogen-fired clay brick trial with the Department for Business, Energy & Industrial Strategy (BEIS) UK Government. The trial was to conduct a feasibility study to replace natural gas with hydrogen in the brick making process.



Image: Michelmersh Brick Holdings PLC. These are four of some of the first bricks out the kiln.

CHALLENGE

The HyBrick™ Michelmersh project represented a world-first trial, where there were a host of possible challenges. The notable challenge for Process Instrument Solutions with this project was the supply of a Gas Mass Flow Meter that can be set to work from natural gas to hydrogen and mix relatively easily.

SOLUTION

In order to accurately record the amount of fuel (both natural gas and hydrogen) that was used for firing the bricks, a Mass Flow Meter was installed, which could accurately measure both natural gas and hydrogen. This allowed both the natural gas and the hydrogen required for firing the bricks to be measured to a high level of precision and accuracy, ensuring safety and delivery.



EQUIPMENT SUPPLIED

Fox Thermal FT4A Thermal Gas Mass Flow Meter

RESULT

The Fox Thermal Mass Flow Meter was found to be a suitable meter for the project and was pre-calibrated for both natural gas and hydrogen. The HyBrick™ project represents a global flagship study to replace natural gas with hydrogen brick manufacturing. Fox's unique Mass Flow Meter provides a technology platform for calculating accurate gas correlations which helped ensure the success of this innovative trial.