



FOR ALL YOUR THERMAL PROCESS REQUIREMENTS

CASE STUDY

Supply of two Galvanising Kettle settings for the Zinc coating of Wire on two Continuous Wire Galvanizing Lines

Magma Combustion Engineering completed a project for a leading fencing manufacturer in Sheffield, UK which included the design, manufacture, installation and commissioning of Galvanising Kettle furnaces.

AIM

Our customer was in the process of rationalising production that required a consolidation of old wire production lines into an adjacent building. In making this change the customer decided to update the furnace settings, controls and combustion systems with the aim improving process control and working conditions and of reducing costs of energy and maintenance.

SCOPE OF THE WORK

Design, manufacture, installation and commissioning of Galvanising Kettle furnaces for the galvanising of wire on two continuous wire galvanizing lines. This involved design of the steel support and refractory structures and pulse fired combustion and control systems. The manufacture, procurement and installation of these and the commissioning and setting to work of these systems.

Multiple strands of wire of various gauges are passed through a molten Zinc bath. The temperature of the Zinc is around 460°C and is contained in a kettle that is 9m long by 2m wide and 1.5m deep. The purpose of this is to galvanise the wire to increase the wires' in-service life. Our supply comprised a total of two settings along with two cascade modulating burners one in each of two diagonally opposite corners of the setting. Controls panels were installed, one per setting to control Zinc temperature with setting temperature safety overrides. Each panel has a human machine interface that allows operators to control that setting and all the other settings supplied by Magma Combustion Engineering, i.e. two pairs of Lead settings, two galvanising tank settings and one alloy bath setting.

BENEFITS

Although the principal aim of the project was to ensure that production continues at the site, other benefits of significance have been generated. The new kettles, with their associated furnace and control systems have allowed production costs to be optimised; fuel and maintenance cost reductions are now contributing to the improved economic performance of the plant. To add to this, product quality improvements have been gained from improved consistency of kettle operation, and there have been environmental quality improvements, both within the workspace and outside; the carbon footprint of the process has been reduced.

CONTACT US

Want to know more about how Magma can help you?

- magmacombustion.com / info@magmacombustion.com
- 01709 521144 / Magma House, Rotherham, S60 1SG

