

FBM METALS BOOSTS QUALITY AND REDUCES EMISSIONS WITH HONEYWELL COMBUSTION MANAGEMENT SOLUTION

Case Study



Honeywell

OVERVIEW

When FBM Metals required outside expertise to help drive the operations of its new zinc processing plant in Grimsby, UK, it enlisted Honeywell's support and deployed its Thermal IQ™ solution.

BACKGROUND

With its calenderability, abrasive resistance, corrosion resistance, and castability, zinc plays a critical role in preventing the rusting and degradation of metals used in sectors such as automotive, construction, shipbuilding, machinery, household electrical appliances, and batteries. That's because when zinc is combined with other metals, it yields a strong, reliable, non-ferrous alloy that can be used for die-castings, car bodies, streetlamp posts, safety barriers, suspension bridges, and many other important applications.

In 1975, [FBM Metals](#) began to trade in non-ferrous base metals. Over the years it focused its business on the processing of zinc secondaries, which involves zinc being extracted from scrap metal in the form of skimmings, oxides, fines, drosses, and dust. Today the company is the UK's largest secondary zinc processor, with contracts in Europe, North America, Africa, and Asia-Pacific.

To strengthen its market leadership, FBM Metals built a state-of-the-art zinc processing facility near the banks of the River Humber in Grimsby, northeast Lincolnshire. The plant was designed to produce a zinc compound that is

used globally in the manufacture of a wide range of consumer and industrial products, from sun lotion to fertilizer.

SOLUTION

After receiving the call, a team from Honeywell Thermal Solutions met with FBM Metals management to better understand their challenges and requirements, and to define a solution.

The Honeywell representatives discovered that the success of FBM Metals' production process – which involved the melting, vaporizing, and filtering of scrap metal – was

CHALLENGES

However, while constructing the 1,570 sq. m facility, FBM Metals' management team determined that more thermal process knowledge was required to run the plant effectively. Many employees at Grimsby were new, and while skilled, they lacked the expertise required.

At the same time, the company was seeking ISO accreditation for the plant. To achieve the ISO 15001 standard for energy management, FBM Metals would have to develop an energy management system through which it could monitor and control energy consumption and emissions at the plant on an ongoing basis. Here too, the company required additional experience.

Given these requirements, FBM Metals approached Honeywell to see how it could help.





based largely on the integrity of the flame in the burner. If the flame's temperature was too high or too low, the quality of the zinc output would be affected. In addition, the filters used in the production process could become blocked, eroding productivity and increasing costs.

The bottom line was that FBM Metals needed an advanced combustion management system for Grimsby's production line. Pre-alarms were needed to keep burner flames at optimal temperatures and ensure they did not stray beyond defined limits, and to ensure that the filters were operating effectively. These measures would help ensure that no batch was lost. Moreover, the company needed a way to see the real-time consumption and cost of the natural gas it used during the production process, and to benchmark and optimize those costs on an ongoing basis.

Honeywell's solution? A complete, engineered-to-order combustion management system powered by [ThermalIQ™](#), a subscription-based, remote monitoring solution that securely connects combustion equipment to the cloud, making critical thermal process data available anytime, anywhere, on any smart device. With

real-time data analytics such as flame signal, first fault indication, fault statistics and history, and parameters from Thermal IQ, users can implement predictive maintenance, remote control/monitoring and other activities to optimize the safety, reliability, and performance of their thermal operations.

In addition to Thermal IQ, the combustion management system designed for FBM Metals incorporated [Honeywell Eclipse](#) ThermJet burners, [Honeywell Kromschroder BCU 570](#) burner control units, inlet and burner gas valve trains, turbine-type gas flow meters, combustion air blowers, control panels, and modems and modules for seamless connectivity with Thermal IQ.

Following FBM Metals' approval of the plans, Honeywell worked with a Lincolnshire-based company to install the equipment and, after that was completed, it dispatched a team to commission and conduct safety checks on the new system.

RESULTS

Today, thanks to the management efficiency of the Honeywell solution and data insights provided by Thermal IQ, FBM Metals is realizing high production quality in the form of the purity of the

zinc output. In addition, the company is achieving its emissions and energy control objectives in line with ISO 15001 guidelines. FBM Metals' management team is pleased that the company was able to achieve such benefits without having to invest in complex and costly IT systems and technologies – a key benefit for any small business.

In fact, FBM Metals has found the Honeywell solution cost-efficient to operate since the Thermal IQ remote monitoring capabilities mean that engineers do not need to be dispatched to the site to diagnose problems – nor do on-site staff have to wait for them. With Thermal IQ, issues are identified and resolved immediately. Moreover, FBM Metals' management team has calculated that a single incident avoidance – for example, production hours lost due to a filter failure or a complete zinc batch rejection – would pay for the Honeywell license fee plus related costs.

Looking ahead, Honeywell will continue to be involved in site activities through the provision of maintenance services and spare parts. FBM Metals, meanwhile, is viewing its future with optimism with the new Honeywell system in place.

For more information

For more information about our solutions and services, visit ThermalSolutions.Honeywell.com or contact your Honeywell Thermal Solutions representative.

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