

CASE STUDY

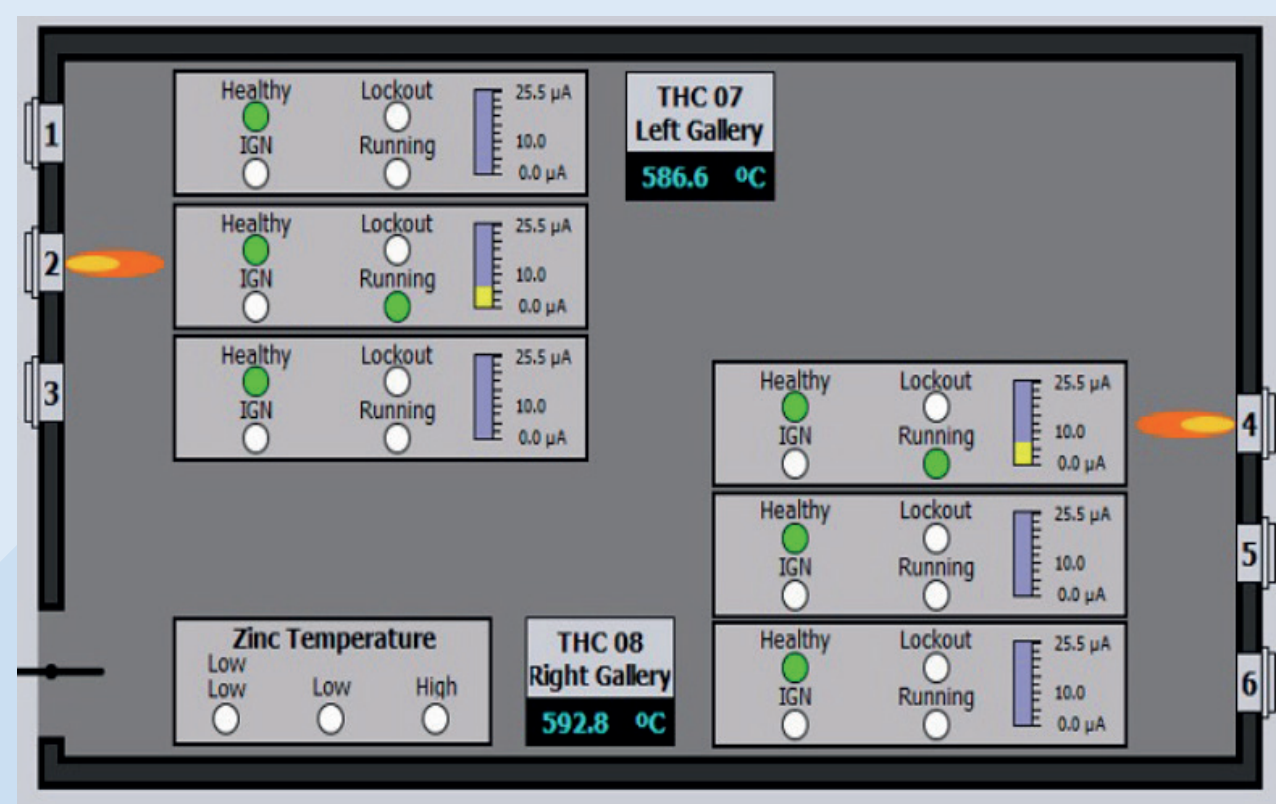
Continuous Tube Galvanizing Plants

CUSTOMER

Tension Steel Industries Co.

SOLUTION

HASCO SMART FIRING™



WHO WAS THE CUSTOMER?

Tension Steel Industries Co. Ltd was established in 1980 as a leading manufacturer of plates and pipes. Through ongoing sustainable business growth, the company extended its manufacturing facilities in HsinChu and GanShan in 1990 and 2004 respectively.

Its products include plates, hot and cold rolled coils, carbon steel pipes, carbon steel rectangular pipe, API pipes, and galvanized pipes, as well as structural, fire control, automobile, and bicycle pipes. One of the company's most popular products is API pipes, of which it manufactures around 5,000 tonnes per month.

WHAT WAS THE CHALLENGE?

Tube galvanizing is a highly energy-intensive process, due to the high throughput and the inability to use a bath cover on a substantial zinc bath surface area. Additionally, the traditional furnace control at the company causes the kettle to wear out quickly, with an average life expectancy of just two years.

However, Tension as a company has still significantly reduced its energy costs by a huge 24 percent, but it was further seeking ways in which to enhance the operational life expectancy of its kettle.

WHAT WAS THE SOLUTION?

Working in close collaboration with Hasco-Thermic's team, we devised a solution to help Tension to find a new alternative in the form of the latest in furnace technology – Hasco Smart Firing™.

A new-generation furnace, Hasco Smart Firing™ optimises the energy flow in a galvanizing plant – from the burners, where fossil fuel is burned, to the chimney, where flue gas is released. The control element involves bath temperature, flame velocity, combustion air pressure, and gallery conditions.

All of which enables each burner to be controlled individually, and correlated to furnace auxiliaries, such as heat exchangers and dryers. The result is that the user has even greater control over the entire journey of energy flow in the galvanizing plant.

HOW DID IT HELP?

Tension Steel Industries Co. Ltd introduced the system into their state-of-the-art automatic tube galvanizing processing line in 2020. By adopting and investing in the latest technology, the company is a leading pioneer across Asia and is proactively aiming to address long-standing high energy costs, as well as short kettle life issues across the entire tube galvanizing industry.

As a result of using Hasco Smart Firing™, its kettle life has increased by over 50% – increasing its operational life expectancy from just two years to three, and helping to significantly reduce the plant's operational costs.

Shih-Ren Liou, General Manager of the Ganshan factory of Tension Steel Industries, expresses his satisfaction with the new technology:

“As Plant Manager, focusing on both plant management for Ganshan factory and energy performance of the whole company, it is very exciting to see Hasco's new

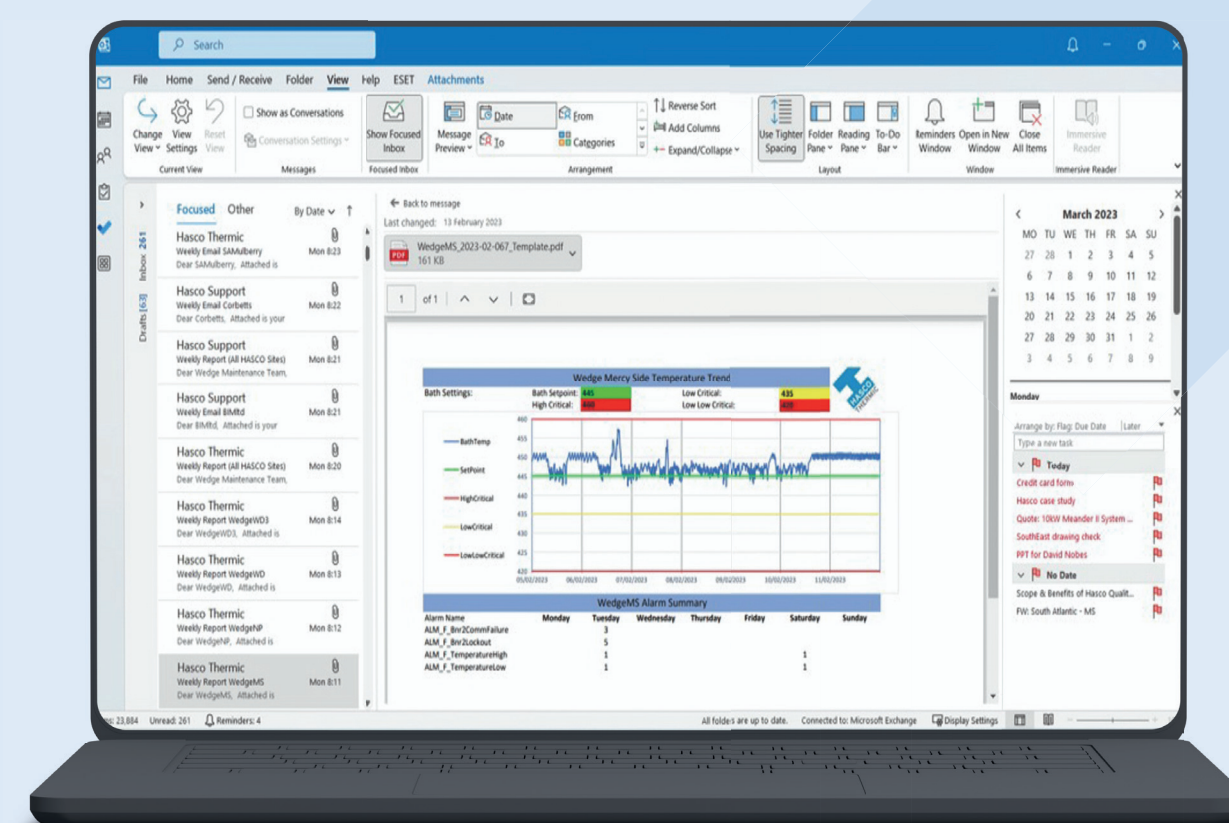
furnace has brought us very encouraging energy savings. The much-reduced energy consumption is also identified as a role model by local environmental agencies according to their monitored consumption data.”

Overall, the benefits of introducing Hasco Smart Firing™ have been significant – helping to reduce energy costs, extending the kettle life, and optimising the entire galvanizing process.

HOW ELSE HAS IT BENEFITED THE COMPANY?

Hasco Smart Firing's connectivity feature also enabled Tension to log data and events, as well as manage the alarm system through its customised web pages. This means it can receive alarm notifications via email or SMS, as well as a detailed weekly health report shared via PDF. With this data and insight, it provides the team at Tension with deep understanding and analysis, boosts process optimisation, and archiving for historic event recall purposes.

Plus, with streamlined connectivity, the Hasco-Thermic team can remotely support Tension's engineers in case of a breakdown, helping to reduce downtime on the processing line (and associated costs), as well as saving on labour and travel time.



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