



Leading manufacturer implements Cyber Secure Connected Thermal Process Solutions for Enhanced Performance and Reliability Across the Corporation

Application Note

“Honeywell offers strong technical resources and expertise to address thermal process challenges of our gypsum wallboard manufacturing operation. Application specialists interface with our technical teams to provide expert assistance.”

Background

This leading manufacturer is building products for more than 115 years. The company offers a wide range of wall, ceiling, flooring, sheathing and roofing products for the industrial, commercial and residential markets.



During gypsum wallboard production, manufacturers must proactively troubleshoot problems that lead to process disruptions, unplanned downtime and lost profits.

Its facility in Indiana, manufactures high-quality gypsum wallboard. Gypsum panels are produced from natural gypsum rock, as well as from recaptured (or synthetic) gypsum. Recaptured gypsum is a byproduct of several processes, including flue gas desulfurization, which removes sulfur dioxide from the emissions of fossil-fuel-burning power plants and reduces acid rain.

Challenges

In a competitive business climate, production and process systems must deliver value by operating in the smartest, most efficient manner possible. There is a growing need for plant owners/operators to minimize unplanned downtime and improve productivity, making uptime essential.

Director Thermal Engineering, Leading manufacturer in gypsum industry

This corporation with a strong commitment to innovation, relies upon thermal process systems as a core part of the value chain for creating gypsum wallboard. However, its plant-based maintenance staffs are lean and increasingly lack combustion and controls expertise, resulting in delays and higher maintenance costs.

The small, centralized thermal process team spends a considerable amount of time reacting to emergency issues. Thermal process incidents can result in personnel safety exposures and reliability issues, which, in turn, diminish facility capacity.

Many existing thermal systems keep performance information trapped at the equipment level. They also lack the connectivity and communications to highlight performance trends, potential failures, and error tracking. When issues occur, plant personnel are unable to describe them in enough detail for remote support. Many times, problems are only resolved by emergency parts/services and/or traveling to the site.

Solution & Benefits

The company sought enhanced control technologies to address overall operational and business challenges tied to its thermal processes. The company required a secure, remote monitoring solution enabling plant personnel to closely monitor the operation of thermal processes, see real-time and trending data, and receive alerts when key parameters go outside normal limits.

To ensure compliance with corporate safety and engineering standards, the facility was willing to standardize on specific technologies and services.

In a highly competitive global marketplace, industrial organizations increasingly seek digital intelligence to better manage and operate assets to meet critical business demands, and to address the increasing shortage of thermal expertise in the workforce.

About Thermal IQ™

Honeywell Thermal IQ is a cloud-based remote monitoring system designed to monitor critical thermal process data. This cyber-secure offering helps improve asset performance, which ultimately leads to increased plant uptime.

The company chose Honeywell Thermal Solutions to supply advanced tools to optimize control performance, support asset effectiveness and maximize equipment uptime, as well as provide expert application engineering services.

The plant implemented Honeywell SLATE™, a new breed of flexible combustion system combining configurable safety features with programmable logic in a single, modular burner control platform. This type of system reduces the footprint on control room panels and is easily customized for virtually any combustion application – in less time, and with far less complexity than traditional solutions. Instead of utilizing separate controllers for different functions, plants can purchase only the modules they need for combustion control and choose how to use them with simple wiring commands. With fewer assets to support and maintain, they also have a lower total cost of ownership.

The customer also employed Thermal IQ, a cyber-secure offering designed to connect thermal process equipment to the Honeywell cloud, making critical thermal process data available anytime, so users can optimize operations, predict plant failures and eliminate unplanned downtime. This solution provides key performance analytics that help installations become more efficient. With Thermal IQ, plant personnel can see current alerts and status information for all connected thermal processing equipment. They also can get a detailed view of all current system parameters on a smart phone or tablet. Templates within the mobile app allow them to drill down to see additional data.

For More Information

To learn more about how Thermal IQ can improve thermal process performance, visit www.combustion.honeywell.com/thermal-iq or contact your Honeywell Account Manager.

Honeywell Process Solutions
Honeywell Thermal Solutions (HTS)

1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Skimped Hill Lane
Bracknell, Berkshire, England RG12 1EB, UK

Shanghai City Centre, 100 Zunyi Road
Shanghai, China 200051

www.honeywellprocess.com/hts

Results

The customer has numerous gypsum plants with sold out capacity; every hour of lost production equates to unrecoverable lost sales. One site experienced a kiln interruption that stopped the entire board production line. The new connected SLATE with Thermal IQ platform allowed the site to remotely pinpoint the issue and Corporate engineering to provide system and domain expertise. This collaboration via real-time monitoring and review of performance data allowed them to realize a solution in hours instead of days! In the past, this type of unplanned outage would cost the plant over \$100,000 in lost production, scrap, and emergency plant and third-party services.

As demonstrated, getting the right information into the right hands via remote monitoring helps keep thermal processes running as safely and efficiently as possible. Troubleshooting is more effective because maintenance technicians arrive at the equipment with the correct tools to repair the problem. Furthermore, technical experts can more easily provide remote guidance and stay ahead of issues by identifying nuisance fault trends and potentially predicting impending failures.

For the facility, Honeywell provided a holistic solution backed by comprehensive support during field start-up and integration. The combination of SLATE integrated combustion controls and Thermal IQ remote monitoring leverages customer's thermal team strengths while mitigating risks and improving safety and reliability. Plant personnel are now able to do more with less and have access to Honeywell technical resources and expertise whenever needed.

Conclusion

The company found that the latest integrated technology solutions help optimize thermal processes, securely connecting production assets for enhanced control and performance monitoring and making critical asset data available anytime and anywhere. Developments in remote monitoring free personnel from the burden of local equipment monitoring. Moreover, they can help expand a facility's thermal-processing potential to drive performance, safety and productivity.

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