

Rohm and Haas Saves \$500K with Honeywell Corrosion Solution



“We had two similar processes showing widely differing corrosion rates. Honeywell’s SmartCET corrosion transmitters helped us to pinpoint the cause of the difference and avoid a planned \$500K materials upgrade.”

Keith Briegel, Manager, Rohm and Haas

Benefits

Rohm and Haas had to find a way to troubleshoot corrosion differences in two similar chemical units at its Deer Park, Texas site. The team installed Honeywell’s SmartCET® corrosion transmitters, providing online, real-time monitoring technology that gives plant operators access to time-trended general and pitting corrosion data, which can be correlated with plant process information. Benefits include:

- Avoidance of a costly materials upgrade by identifying the root cause of the difference between the units allowed the plant to save over \$500K in capital expenditure
- Identification of high corrosion rates during a recirculation condition by online correlation of process and corrosion data allowed the plant to devise an operating strategy that avoids corrosion
- Identified path for operators to improve equipment reliability, stability, integrity and uptime

Background

Leading the way since 1909, Rohm and Haas is a global pioneer in the creation and development of innovative technologies and solutions for the specialty materials industry. The company’s technologies are found in a wide range of markets including construction, electronics, retail, industrial process, packaging, paper, transportation and water. The Rohm and Haas Deer Park site has been making raw materials for adhesives, paints, coatings and plastics since 1948.



Honeywell’s SmartCET corrosion transmitter helped Rohm and Haas save \$500K.

Challenge

Two similar chemical units were showing widely different signs of corrosion damage. While one of the plants had low corrosion rates, the other corroded at very high rates causing rapid failure of stainless steel piping. Traditional monitoring techniques, such as use of corrosion coupons, failed to detect the root cause of the problem.

Because of the corrosion problem and no understanding of why the plant corrosion rates were different between the two units, an alloy upgrade was planned. This upgrade in materials would cost the plant well over \$500K.

Solution

Honeywell worked with the Rohm and Haas Deer Park site to install SmartCET corrosion transmitters and connect them to the Honeywell control system. The patented SmartCET transmitter forms the foundation for Honeywell's corrosion solution, providing online, real-time corrosion information that enriches the information in a process knowledge system.



SmartCET represents a major step forward for plant operators to improve equipment reliability, availability and integrity.

SmartCET gives plant operators access to current, actionable process variable information including a time-trended general (uniform) corrosion rate. Also, it uniquely provides an indication of corrosion modality (localized or pitting corrosion) detection.

SmartCET communicates via the HART protocol and can easily connect to existing control systems. As an input to the process control system, corrosion data can be alarmed, historized, trended and assigned to

process groups. Corrosion data can now seamlessly correlate with other process variables, providing a broader view of plant operating conditions and methods of mitigation.

After installing the two probes and connecting them to the control system, operators and engineers at Rohm and Haas were able to identify two process scenarios that were contributing to the difference in corrosion rates.

The first was that one unit's corrosion rate was higher immediately after a shutdown. On further inspection, it was found that a leaky valve was allowing water into the system on shutdown and raising the corrosivity of the system. The leaky valve was replaced, eliminating this source of corrosion.

The second was that corrosion was higher in the process when a certain recirculation condition occurred. By making some process changes, the plant was able to avoid this condition on the second unit.

When both of these conditions were corrected, the plant found that it could avoid the planned \$500K materials replacement on the units.

"Having a corrosion sensor that connects to the DCS is a real benefit," said Andrew Wheeler from the Deer Park operations team. "We are able to view corrosion just like any other process reading and this allows us to make decisions that preserve our equipment while producing world-class products."

SmartCET® is a registered trademark of Honeywell International Inc.

For More Information

To learn more about Honeywell's corrosion solutions, visit www.honeywell.com/ps or contact your Honeywell account manager.

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