

# Radar Level Transmitter Delivers Reliable Output in Reactor Vessel at Casco Adhesives

## RESULTS

- Reduced operational and maintenance costs
- Increased reliability and process availability
- Startup time minimized

## APPLICATION

Adhesive Batch Reactor Level Measurement

**Application Characteristics:** A mixture of solvents with varying densities and agitation. Dielectric of final product is estimated to be about 6.

## CUSTOMER

Casco Adhesives, Kristinehamn, Sweden

## CHALLENGE

Casco Adhesives, a chemical company, manufactures different kinds of resins for wooden beams, floors, furniture, and for strengthening paper bags. Resin is a formaldehyde-based, viscous and sticky product that tends to coat and solidify on any surface it contacts.

The process involves many steps, including batch reactors, cooling tanks, and buffer tanks before the product is shipped. This application applies to the reactor tanks, where the resin is produced by mixing different solvents. Two sets of mixer blades, together with baffles on the tank wall, generate turbulence. The product is heated, creating vapors and condensation. A non-contact technology was preferred because of the characteristics of the process.

Casco Products previously used a plumb line, along with visual inspection, for this application. When upgrading to automatic process control they also needed a new transmitter. Due to density variations, a pressure transmitter was not an optimal solution, so they chose radar. Based on previous experience with other radar devices, the customer thought a 4-wire device would be needed to handle the vapors and agitation of this application.

## SOLUTION

The problem was solved by installing a 2-wire Rosemount 5400 Radar Level Transmitter with a 6" cone antenna and a 4-20 mA/HART output. While radar technology is immune to density changes, the success in this application is due to the outstanding echosensitivity of the transmitter.



*Since the installation, both operational and maintenance costs have been reduced.*

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Increased sensitivity from the Dual Port technology enables greater safety margins towards changed measurement conditions resulting from vapors and turbulence. This results in increased reliability and process availability. This increased sensitivity allowed the 2-wire radar to work where a 4-wire traditionally would have been required.

Rosemount Radar Master software was used to configure the transmitter, using the basic configuration wizard. A key component of the Rosemount 5400 and Radar Master is the “Measure and Learn” feature. This enables the device to quickly sort out the actual level from false echoes created by the mixer blades and baffles. The unit was up and running within minutes of installation.

Since the installation, both operational and maintenance costs have been reduced, according to Johnny Lundberg, Project Manager.

### RESOURCES

#### Rosemount 5400

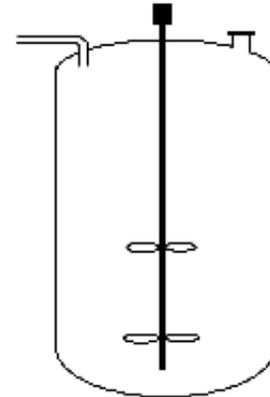
<http://www.emersonprocess.com/rosemount/products/level/m5400.html>

#### Emerson Process Management’s Chemical Industry Page

<http://www.emersonprocess.com/solutions/chemical>

#### Details

Height: 3.5 m (11.5 ft)  
Temperature: 20-50°C (68 to 122°F)  
Pressure: Ambient  
Nozzle: 6-in.



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