

No Wait for Film Weight !

VOLUME 25

Now there is no need to wait for coatings to dry, before making adjustments to sheet coaters. Sencon's new SC8400 On-Line Film Weight Monitoring System is positioned immediately after the coater, and gives instant feedback of the expected dry coating thickness.

The all new SC8400 gives a faster response time, resulting in quicker operator feedback and is considerably easier to set up compared to its predecessor.

This direct feedback of accurate information about process performance is critical to sheet coating control. Normally, waiting for sheets to cure before measurements are taken, means that significant losses can be incurred. These losses are due to either downtime, while the process stands idle waiting for settings to be checked, or waste, because production continues only to find that the settings are incorrect.

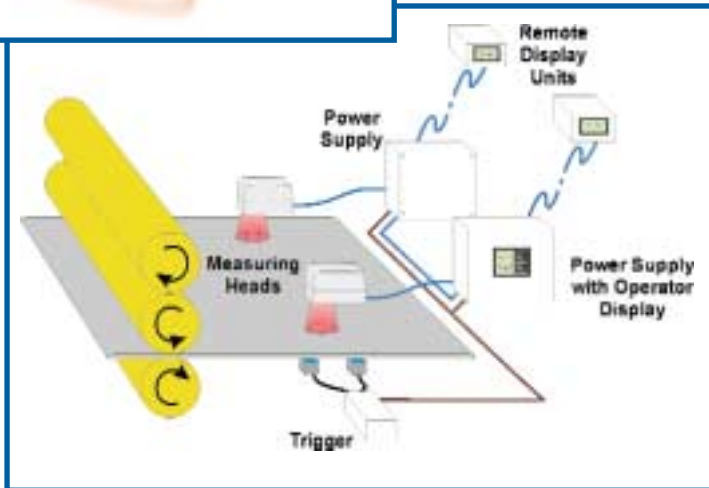
By comparing infrared absorption at carefully chosen wavelengths, the dry film thickness can be computed by the SC8400 and displayed for the operator. He can now adjust the process closer to specification without fear of over-adjustment, because the effects of the adjustments can be seen as soon as they are made.

The operator can adjust the process closer to specification without fear of over-adjustment

.....immediate feedback of accurate information about process performance.

This results in a number of immediate benefits, including reduced change-over time due to feedback of the coater's film weight delivery, elimination of expensive and wasteful over application of coating, and elimination of handling damage, because the SC8400 is a non-contact device. The SC8400 has a measurement accuracy of 0.3 g/m².

The SC8400 is one of the most significant advances in 3-pc line control available on the market today. It more than pays for itself in coating cost savings and improved line efficiency.



Why wait? You can have all these savings now, just by installing the SC8400 on your sheet coating line.

For more details of On-Line Wet Film Weight Measurement, tick SC8400 on the reply sheet.

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In Brief

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SENCON

CONTROL DOWN THE LINE

World Class 24/7 for Coating DMAIC

The acronym DMAIC is well known to anyone implementing a Six Sigma programme. It stands for Define - Measure - Analyse - Improve - Control, a key methodology for six sigma process improvement.



When it comes to coating thickness and distribution improvement in a beverage can, a measurement system that is stable, accurate and with a world class R&R giving sound data, is essential if most of the stages of this process improvement programme are to be implemented effectively.

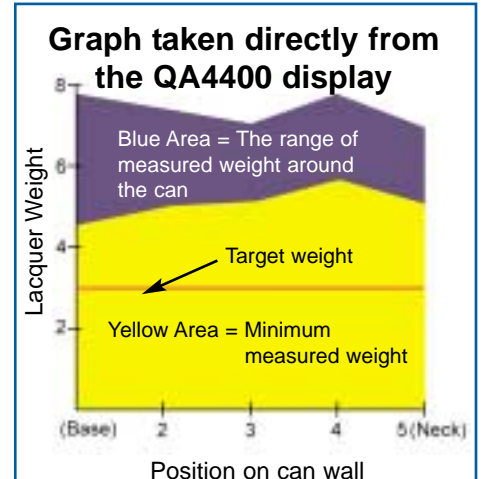
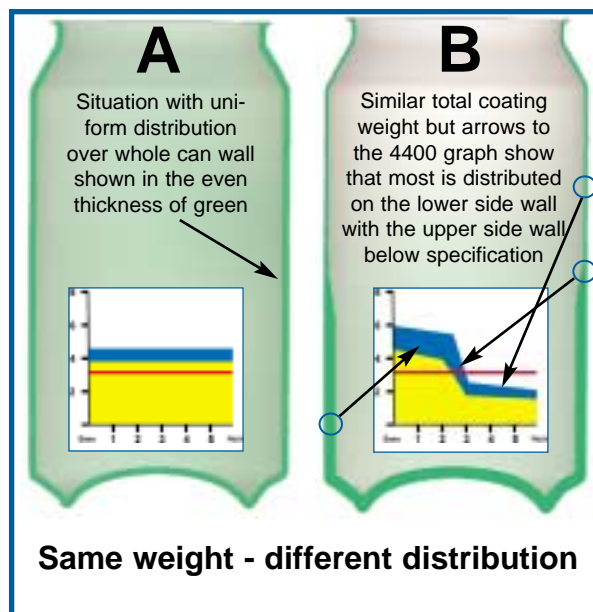
- Measure - for the collection of accurate coating thickness and distribution data from the process for analysis.
- Analyse - for the sound testing of sources of variation in coating thickness and distribution and establishing root causes of variation.
- Improve - for effective monitoring of the effect of adjusting these root causes on coating thickness and distribution in pilot studies
- Control - for ensuring that all gains are maintained through the continuing measurement of the improved process.

So why do you need to measure your coating process? Didn't the testing for metal exposure 24/7 discussed in the last issue suffice? Not really. The QA2600 Enamel Rater ensures that metal exposure is spotted as early as possible, but it cannot check the effectiveness of the coating process, ensuring that only the required amount of coating is appropriately distributed over the surface of the can (See Can 'A' in the diagram).

The QA4400 displays a graph of maximum and minimum coating thickness over the whole can wall

Simply measuring the weight difference before and after the coating process does not tell you how the coating is distributed. This is where the QA4400 Automatic Film Weight Gauge comes into its own. By measuring up to 64 internal points and 64 external points, as well as the dome, the QA4400 will display a graph of maximum and minimum coating thickness over the whole can wall from base to neck. This shows how both internal and external coating is distributed (See Can 'B').

The operator's only involvement is to remove the samples from the line and put them into the chute for testing.



All the rest is under the machine's control, and the operator's time is free to run the plant. All the data about line, spray gun, batch and time, as well as the test results, are either pre-set or collected automatically. All the test data is held in the QA4400's control PC, which can be connected to the plant network for results to be collected centrally.

The operator's only involvement is to remove samples from the line

Once the required data from the 'as is' process has been collected, the detailed analysis can begin. As potential causes of variation are studied, and root causes identified, their effects can be tested using the QA4400 to collect large quantities of coating distribution data, and ultimately improvements can be tested and proved.

Finally, using the QA4400, the operators can ensure that the gains identified are maintained and the customer requirements met 24/7. Real cost savings are available but they require detailed data gathering to locate, and constant checking to ensure savings are maintained. Sencon QA gauges ensure that data gathering is efficient in both time and resources.

For more on automatic coating thickness measurement, tick QA4400 on the reply sheet

Area Mass Sensing for Smooth Control

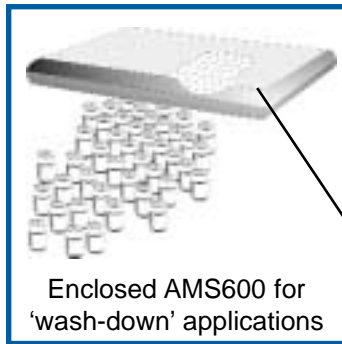
There are two key requirements for cans to run through the washing and surface process treatments effectively before coating. These are controlling the washer mat speed to ensure the correct process time, and close packing of cans to minimise tipping caused by the high pressure spray.

Typically, a number of proximity sensors are used on the side rail of, or above, the mass conveyor. These are to assess can density at the entry to the washer.

Because the cans approaching the entry to the washer are not necessarily closely packed, a metering conveyor may be used to allow the cans to mass together, before they are released onto the washer conveyor. The washer conveyor will generally be set to run at the optimum speed for the process

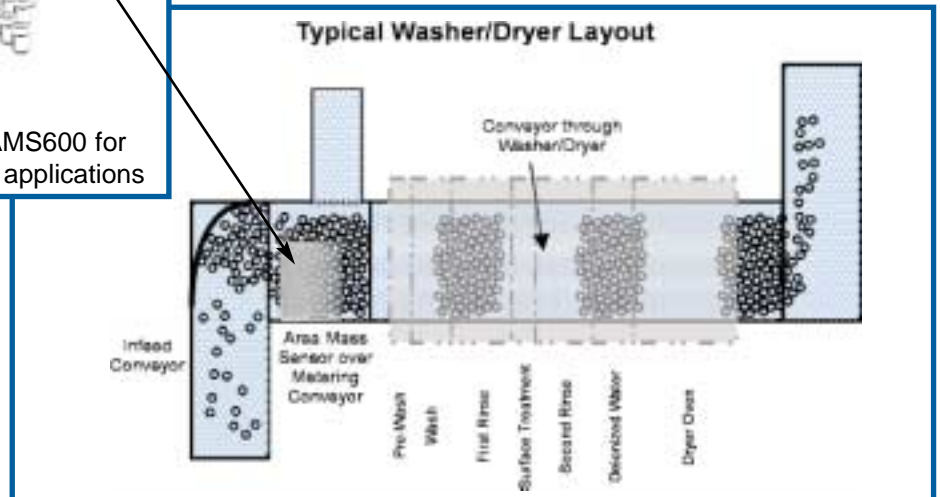
time requirements. Adjustment of the infeed conveyor speed from the sensors on the metering conveyor is made in steps, dependant upon the number used, and often leads to 'hunting' of the conveyor speed and erratic packing.

give an analog control output to the infeed conveyor drive. The infinitely variable adjustment means that the input to the metering conveyor will find its optimum level easily and ensure close packing of cans without excess pressure.



Using the Sencon AMS600, designed specifically for this type of environment, will

For more details of Area Mass Sensing, tick AMS600 on the reply sheet.



Designed to Survive !

After each blank and draw stroke, the cup must drop onto the conveyor below to prevent damage to the die set assembly. That might be considered an easy job for a standard 'prox' sensor, if it wasn't for the fact that this is one of the most extreme environments in the canmaking plant.

Temperature, vibration, hot lubricant, metal debris - you name it and you'll find it in the cupper. The Sencon Die Protection Sensors were

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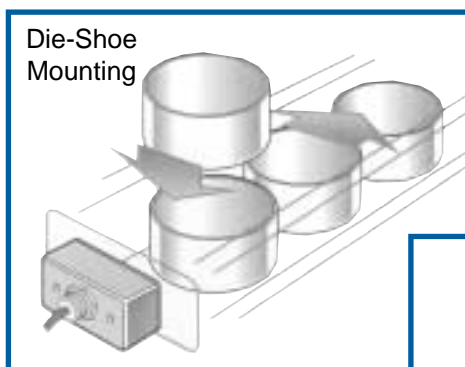
designed specifically to deal with this environment from the outset.

The housing is robust enough to protect the sensor electronics from heat, lubricant and debris. The

behind the cup drop zone or directly in the guide between cup lanes.

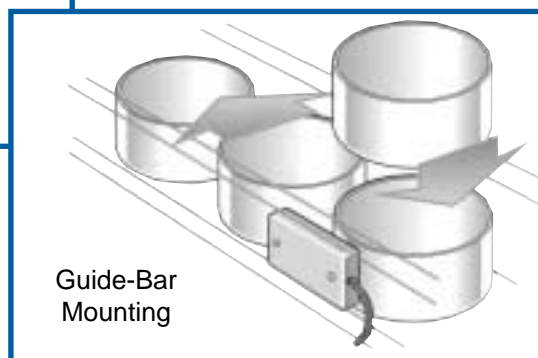
Finally, because the space is so small, the sensing field profile is carefully controlled so that it sees only the dropping cups, and not the guide rails or other intrusive objects.

These sensors may be out of sight and out of mind, but you can be confident that because they have been designed specifically for the application, not only will they survive, but so will your tooling.



cable connections are either fixed and sealed, or designed to be sealed into a conduit connection.

Space is limited, so the housing is compact, designed to fit in the die shoe



For more details, tick Die Protection on the reply sheet.

News & Views Survey Results

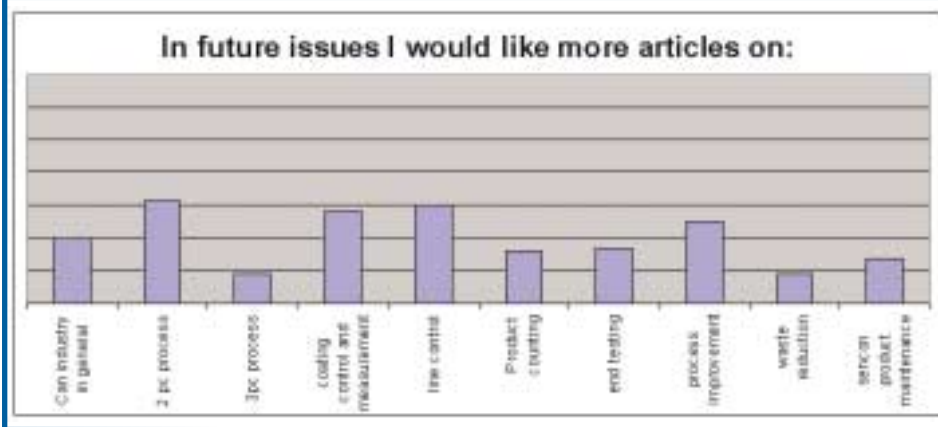
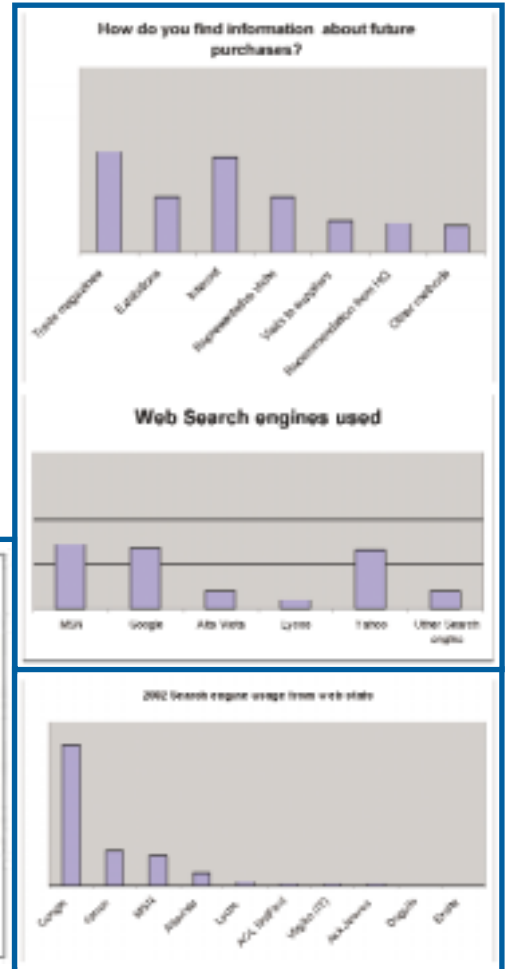
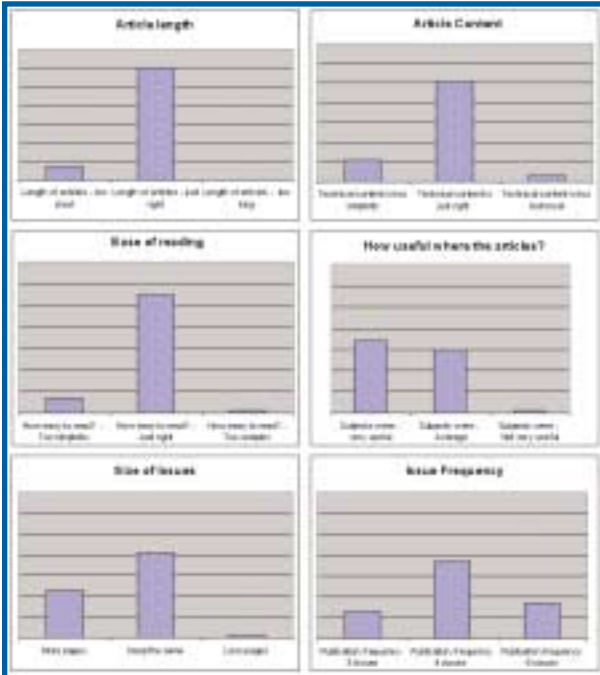
A Picture is worth a thousand words!

The easiest way to present the results of our survey is to show you the graphs and then tell you about the changes we are going to make as a result of the survey.

To satisfy the requests for more pages, we will now publish four times a year.

Though the length and content are about right, we will introduce one or two slightly more technical articles and ensure good application information.

Future issues will take account of your wishes on subjects to be covered.



In Brief

Winner of Palm Pilot Draw

A big thank you to all those who took the time to fill in our survey on News & Views. The article above deals with the results, but in 'In Brief', we are pleased to announce that the winner of the draw was David Contreras of Silgan Containers Corp. U.S.A., who should have received his Palm Pilot already.

Cannex 2003 - April 1st -3rd

We will be exhibiting at the Cannex 2003 exhibition in Singapore between April 1st & 3rd. We will be showing the range of SI Gauges and peripherals, Double Sheet detectors and some new products.

CD Video discs of Gauges, Product Catalogues etc. will also be available.

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