

RESULTS *Flash*

Da Vinci System Regulatory Controls Improve Machine Performance

Enhanced paper machine runnability and improved product quality have been realized at a Midwestern United States producer. This is a result of adding a new Da Vinci Quality Measurement and Control System (QCS).

Da Vinci System Addition

Mid-1999, a Honeywell Da Vinci system was installed – replacing a previous generation QCS. At the same time, Calcoil CW Caliper and AutoSlice Weight Profiling Systems, a SuperFlex Titanium Slice Lip and a new magnetic stock flow meter were installed. The Da Vinci Performance control package utilizes advanced multivariable control matrices, optimizing all key control variables. Machine direction and regulatory controls include basis weight, moisture, headbox and dry stock controls. Such controls work in conjunction with cross directional weight and caliper controls. Since the installation, several excellent control results have been realized.

Improved Control Performance

Once commissioned, Da Vinci Performance controls reduced machine direction 2-sigma variations significantly. Additionally as illustrated, regulatory headbox controls maintain the rush/drag setting throughout an entire machine speed upset by regulating the total head pressure in the headbox. The dry stock control utilizes feedforward to correctly manipulate the stock flow out of the headbox to compensate for increased stock consistency. In the end, the product basis weight remained constant throughout the stock consistency bump. Such proves the power of the Da Vinci Performance controls in improving product quality and machine runnability.

Da Vinci Headbox Control



Key Machine Data

Grade	
Basis Weight	32-65 g/m ² (20-40 lb/3000ft ²)
Moisture	3 % average
Caliper	45-215 microns (1.8-8.5 mils)
Machine	
Machine Speed	400-500 m/min (1300-1650 ft/min)

Honeywell