

January 27, 2009

Bytewise On-Line Measurement System Improves Profile Control in Cellular PVC Deck Board Production

Columbus Georgia -- Bytewise Measurement Systems has long been the industry leader in on-line profile measurement systems, with a majority market-share in many measurement solutions for rubber and plastic extrusions. It comes as no surprise that many extruders of cellular PVC (polyvinyl chloride) have adopted Bytewise's Profile360™ to monitor the size and shape of extruded deck boards, rails, and trim boards.

Cellular PVC is gaining strength as the material of choice for deck systems as an alternative to natural wood materials. Cellular PVC (also called foamed PVC) compounds are gaining market share due to favorable cost, ease of processing, and weatherability. Favorable weather resistance is achieved by applying a capstock downstream in the extrusion process. This capstock can also include coloring agents.

Cellular PVC extrusion is not without problems however. The chemical reaction of the blowing agent can make dimensional control challenging, thus the need for continuous on-line monitoring for size and shape, particularly for features that affect fit and alignment, such as tongue and groove dimensions. On-line monitoring can also detect cross-sectional bowing in the board surface, a condition which negatively affects the visual uniformity of deck installations.

Key to effective on-line measurement is the laser profile sensor. Profile360 Product Manager Brad Newman explains - "The profile sensor projects a laser line across the board so that the light is reflected through precision optics and onto a CCD detector, which digitizes the profile. Once digitized, virtual software calipers are applied to capture key dimensions, which are displayed for the operator, much like a real-time optical comparator. As a result, when the extrusion process goes out of specification the operator is alerted immediately to take action necessary to regain control of the process."

Jim Williams, Sales Director for North America adds "Deck board manufacturers are under increasing pressure to run more lines with fewer people. Profile360 displays are often arranged so that one operator can view the status of several lines. Real-time status can also be viewed at any PC on the factory network, so people in the production and quality teams can stay apprised of the line performance. Trend line displays permit any observer to see the dimensional values for the complete run."

To find out more please contact Jim Williams.

About Bytewise Measurement Systems

Bytewise offers laser-based, non-contact, dimensional measurement systems that are employed on the factory floor for quality monitoring, process control and inspection. Bytewise is comprised of industry-leading experts in laser sensor development, metrology and software development. Having this expertise enables Bytewise to

develop industrial measurement systems that are the most accurate, reliable and easy to use. Bytewise is located in Columbus, Georgia, USA, with offices in Sweden and China.

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