

PRESS RELEASE

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SE75EV All-electric Demonstrates Benefits of Z-Molding's Flow Front Control System

- **8-cavity electrical bobbin molding shows how the Flow Front Control (FFC) system achieves complete, consistent, low-pressure filling without overfilling, compression or flash in multi-cavity applications**

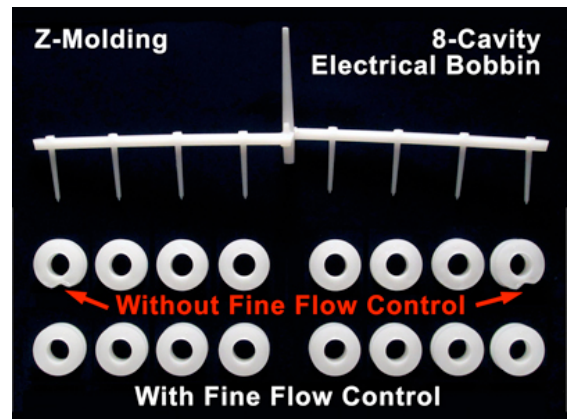
[Plastec West – February 12, 2013]...Sumitomo (SHI) Demag (Booth 4279) presented the innovative technology of its SE-EV Series advanced all-electric machine for visitors at the combined Plastec West/MD&M West 2013 trade show in Anaheim, CA.

For its West Coast debut of the all-electric machine, an SE75EV C250 / 36mm (84 U.S. tons, 750 kN clamping force) is running a specialized 8-cavity electrical bobbin mold to demonstrate the benefits of the machine's FFC system.

“Using our Z-Molding Flow Front Control system, together with the machine's Flash Speed Mode capability, this multi-cavity application clearly shows the SE-EV's ability to achieve complete and consistent filling while maintaining low pressure inside the cavities,” said Mike Formella, West Coast Regional Sales Manager.

To substantiate the precision repeatability of the molding demonstration, a Keyence America CV-X100 Series intuitive auto-teaching vision system will inspect the parts being molded. The

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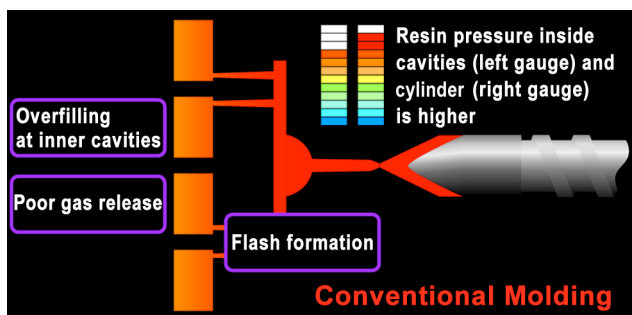
The multi-cavity electrical bobbin mold being run at the show will demonstrate how Z-Molding technology achieves complete, repeatable, low-pressure filling of all the cavities, thus avoiding defects such as short shots, overfilling, compression and flash.

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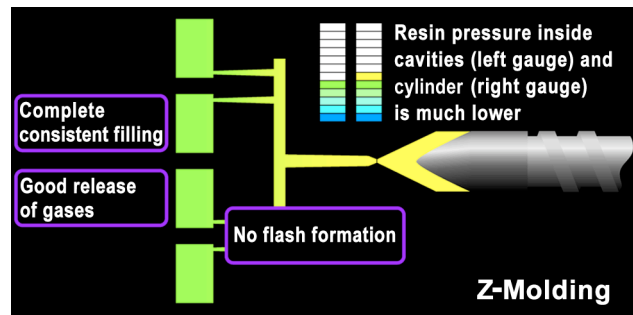
CV-X100 “learns” what a good part looks like without complicated programming.

Sumitomo (SHI) Demag’s Z-Molding technology is designed to help molders achieve zero-defect molding and optimum machine performance. It combines three unique systems: the patent pending Flow Front Control (FFC) system, Minimum Clamping Molding (MCM) system, and Simple Process Setting (SPS) system.

Focusing on the Flow Front Control system, the diagrams below compare conventional injection molding with Sumitomo (SHI) Demag’s Z-Molding technology using the FFC system.



In conventional molding, by fully charging resin into mold cavities, overfilling and compression occur at inner cavities and gases are trapped. At lower pressures, short shots occur.



In Z-Molding, the Flow Front Control system optimizes the flow front. By achieving complete, low-pressure filling, the problems associated with overfilling and trapped gases do not occur.

The system works by restricting screw position to optimize the flow front, further allowing control of low internal pressures inside the cavities. This system:

- Takes advantage of the viscoelastic properties of the resin — visco (creep) and elasticity (recovery or pull back) — and allows complete filling without flash
- Provides precision control of screw position to ensure consistent filling, shot-to-shot
- Avoids overfilling, allowing gases to be released and preventing short shots

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Flash Speed Mode, another important feature of the demonstration, provides exceptionally fast response control of velocity and pressure, before/after V/P switchover. It is primarily used for injection speeds of 11.81 in/sec (300mm/sec) and higher. The SE75EV on display is capable of injection speeds up to 13.78 in/sec (350 mm sec).

Other specifications for the show machine include:

- Maximum injection and holding pressure: 24,801 psi (1744 kgf/cm²)
- Maximum shot size: 4.8 oz (137 g)
- Maximum mold open/close speed: 47.24 in/sec (1200 cm/sec)
- Maximum injection rate: 21.7 in³/sec (356 cm³/sec)

Booth 4279 is being shared with Yushin America which is demonstrating the YCII-150S-15-8.5 robot with efficient two-staged arms and other advanced features. Other suppliers contributing to the demonstration include: Advantage Engineering – chiller and mold temperature control unit; Novatec – material loader; and Total Petrochemicals – PP material.

Offering exceptional energy efficiency, the SE-EV Series has achieved up to a 20% reduction in energy use over previous all-electric models due to:

- Sumitomo-built motors with exceptionally low rotational resistance
- Decreased friction in the linear guidance system
- Decreased friction through the use of bush-less tie bars
- A new barrel design with improved heat efficiency
- And a new toggle linkage lock-up mechanism that uses no electricity to hold the clamp closed

Z-Molding is a standard feature of the company's SE Series all-

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electric machines. Additional information on this technology and the SE-EV Series can be found on the company's website at:

www.sumitomo-shi-demag.us

Sumitomo (SHI) Demag's worldwide group of companies is dedicated to helping plastics processors compete more effectively in the global market. The company manufactures a wide range of high-precision IM machines for diverse applications. Its all-electric platform spans from 8 to 836 U.S. tons, including micro to mid-sized, high-speed, high-duty, vertical, insert, high-speed multi-shot and disc molding machine series. Ultra-high-speed hybrid machines are offered for packaging and other thin-wall applications, plus high-performance hydraulic and toggle machines, including configurable multi-component models, are offered up to 2248 U.S. tons. Equally important, Sumitomo (SHI) Demag has an extensive worldwide network, ensuring customers of sales, parts, training, service and processing support when and where it is needed.

Information on the North American operations of Sumitomo (SHI) Demag can be found at:

www.sumitomo-shi-demag.us (New machinery website)

www.vandorndemag.com (Aftersales website)

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