

PRESS RELEASE

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SE180EV-A All-Electric Demonstrates Injection Compression Lightweighting + IML for Packaging Applications

[NPE Booth W3045, Orlando, FL – May 7, 2018]...

Sumitomo (SHI) Demag Plastics Machinery North America, Inc. opened its NPE 2018 exhibit with a unique packaging demo today that combined injection compression molding plus in-mold labeling for a container lid molded on an SE180EV-A all-electric.

“Although we have been doing injection compression molding for more than 30 years, there is growing interest in using the process in thin-wall packaging applications to lightweight the parts,” said Mike Uhrain, Technical Sales Manager – Packaging. “We chose to exhibit an injection compression lid on an all-electric to show that this technology is now an option in the thin-wall arena and that significant savings can be achieved with this machine/process combination.”

The PP (MFI 55) lids, produced in a 2-cavity, hot runner mold on a sub 5-sec cycle, have an L:T of 315, wall thickness of 0.014 in, and measure 7.5 x 4.9 in. The double-sided IML label in combination with a see-through window area and a transparent tinted base resin creates premiumization for the product.



The mold for the demonstration was provided by Rouxel S.A. and Techno-Moules P.L.C. Inc. Verstraete IML supplied the in-mold labels.



The SE180EV-A running the demo is a 202 U.S. ton all-electric with a dry cycle (Euro-map 6) of 1.5 s – 15.43 in.

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The savings for the demo application, compared with conventional injection molding, was quantified as:

- 11% less energy use
- 35% less clamp tonnage – Actual 158 U.S. tons (143 mtons)
- 26% lighter parts – 14 g part reduced to 10.4 g without label
- 104,000 lbs/year less resin

“Thin wall packaging producers are always looking to reduce costs and resin is typically the largest opportunity,” Uhrain said. “Through injection compression of high-speed, thin-wall parts, we can achieve results that compare to the thin wall and light weight of thermoformed parts but with the quality and design features of injection molding.”

Lightweighting from thinning of walls also leads to reduced cooling time, reduced cycle time and more parts produced per hour.

For thin-wall packaging, injection compression molding can improve part quality through less molded-in stress and flatter parts. Additionally, injection compression, compared with other lightweighting processes (thin-recess IM, multiple gates, microcellular foam) allows conventional gating and reduced cavity pressure, plus there are no weld lines.

SEEV-A Features Provided as Standard

The high-performance specifications and overlapping functions of clamp and injection required for injection-compression molding are provided as standard with the SEEV-A.

This includes:

- High injection speeds (100% shot weight injected in 0.1 sec)
- High-precision clamp motion control in conjunction with injection
- Multi-toggle clamp force control that offers two modes:
 - A high-cycle mode in which filling begins during clamping for improved cycle time
 - A gas-release mode in which filling begins during low-pressure clamping for improved part quality

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The SEEV-A's fast clamp speed is another plus for packaging with a dry cycle (Euro-map 6) of 1.5 s – 15.43 in (392 mm).

Features of the SEEV-A that support a clean molding environment for food packaging applications include:

- No hydraulics
- Plated, bushing-free tie bars keep the mold area clean and grease free and reduce grease consumption
- Self-contained lubrication on the linear rails
- Optimized grease supply system with cartridges

Other contributors to the SE180EV-A injection compression molding demo include: Gammaflux L.P. (hot runner); Pinnacle Polymers LLC (resin); Milliken & Company (colorant); Machines Pagès (robot); Frigel North America, Inc. (chiller); All World Machinery (corepull unit); Comet Plastic Equipment (loader); and MAC Automation Concepts (resin bins).

The SE180EV-A is just one of Sumitomo (SHI) Demag's 12 diverse machine demos at NPE highlighting the **Productivity⁺** benefits that expand molding capabilities and increase profitability for molders. To see all of the company's NPE demos, attendees are encouraged to visit the following booths:

Sumitomo (SHI) Demag	Booth W3045
RJG Inc.	Booth W3383
Yushin America, Inc.	Booth W2173
Gammaflux L.P. (Männer molds)	Booth W763
Canon Virginia, Inc.	Booth W223

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 (SE, SR and CL series) spans from 8 to 935 U.S. tons, including micro to mid-sized, high-speed, packaging, high-duty, vertical, insert and high-speed multi-shot machine series.

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Ultra-high-speed hybrid machines (EI-Exis SP and Systec SP series) are offered in models from 165 to 825 U.S. tons for packaging and other thin-wall applications. Configurable, high-performance hydraulic and toggle machines (Systec Series), including multi-component models, are also provided for applications from 39 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.

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