

Vitality Foodservice Slashes System Costs with SABIC Innovative Plastics' High-Temp Ultem* Resin for New Coffee Dispensing System

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BERGEN OP ZOOM, The Netherlands – November 11, 2009 – SABIC Innovative Plastics' high-temperature Ultem* 1000 resin has been chosen by Vitality Foodservice, a leading provider of beverage solutions, to create a new low-dose bump pump for its latest coffee dispensing system. The high processing temperature, stiffness and dimensional stability of Ultem resin, combined with a new, highly efficient two-shot injection molding process helped Vitality achieve part consolidation, reduce cycle times and improve overall production efficiencies. Ultem resin's strength and durable bond with overmolded silicone ensure exceptional part precision and consistent dispensing, giving Vitality a competitive advantage and a unique offering for new market sectors. SABIC Innovative Plastics' pioneering work in high-performance thermoplastics is giving customers like Vitality new ways to reduce their overall system costs.

“We are very pleased with the results of this project, which was a success largely because of Ultem resin's high performance and the efficiencies of two-shot molding,” said Rick Baron, director of engineering, Vitality Foodservice. “We were able to reduce cycle time by two thirds and significantly boost our productivity, both particularly important in the current economic environment. Also key was development time – SABIC Innovative Plastics helped us realize a speed-to-market advantage in a competitive industry. Our new beverage dispensing system will help Vitality move into new market sectors because we can now offer a combination of precision, freshness, consistency and cost-effectiveness. The Bump Pump is giving us a true competitive edge.”

To create the two-part Bump Pump, Vitality's molder, Dymotek, uses two-shot (two-component) injection molding, and exposes the Ultem resin to ultraviolet (UV) light before overmolding to enhance adhesion of the silicone. Because Ultem 1000 resin processes at a high temperature of 180C, the heat cures the silicone very rapidly and creates a secure bond. This approach cuts cycle time for the part to one minute – a savings of more than two minutes over the other resin that was considered.

“Collaboration with our customers is how SABIC Innovative Plastics does business, clearly evident in the way we teamed with Vitality to give them the resin they needed to address a critical need,” said Scott Fallon, general manager, Specialty North America, SABIC Innovative Plastics. “The Bump Pump was a very challenging part, with incredibly tight specs and requirements, and Ultem resin was the perfect fit. The exceptional high performance and flexibility of Ultem resin allowed Vitality to streamline production, consolidate parts, boost quality, and significantly cut overall system costs. This project was a total win-win for the entire team and our respective companies.”

Smelling the Coffee: Ultem Resin Delivers Low System Costs and High Quality

Vitality initially planned to use a standard resin for the rigid body of the Bump Pump. However, the required high mold temperature for curing the liquid silicone caused distortion of the resin. Also, overmolding called for two injection molds, adding costs for in-process inventory, labor and capital investment.

The company quickly decided upon Ultem 1000 polyetherimide (PEI) resin, which offers U.S Food & Drug Administration (FDA) and European Union (EU) food contact compliance, a glass transition temperature of 217C and high strength. Ultem resin's high processing temperatures, stiffness and dimensional stability were critical in allowing the use of two-shot molding to eliminate unnecessary operations and tooling.

An important benefit of overmolding silicone onto Ultem resin was part consolidation. Multiple functional elements, including a flexible pumping chamber and inlet pinch valve, a cone sealing element for the outlet valve, a seal for the nozzle insert and a translucent window for the LED "product sold out" indicator, were consolidated in the pump body. Further, the strong, durable bond between the materials prevents oxygen from entering the system, helping to ensure freshness and optimal flavor of the coffee.

Ultem resin's stiffness and dimensional stability also contribute to part precision, which helps the Bump Pump deliver a consistent .4 ml per pump stroke. This accuracy produces consistent quality from drink to drink, satisfying consumers and providing reliable yields for restaurants and institutions using the beverage system.

For additional information on SABIC Innovative Plastics' Ultem resin, please go to www.sabic-ip.com.

About SABIC Innovative Plastics

SABIC Innovative Plastics is a leading, global supplier of engineering thermoplastics with a 75-year history of breakthrough solutions that solve its customers' most pressing challenges. Today, SABIC Innovative Plastics is a multi-billion-dollar company with operations in more than 35 countries and approximately 9,000 employees worldwide. The company continues to lead the plastics industry with customer collaboration and continued investments in new polymer technologies, global application development, process technologies, and environmentally responsible solutions that serve diverse markets such as automotive, electronics, building & construction, transportation, and healthcare. The company's extensive product portfolio includes thermoplastic resins, coatings, specialty compounds, film, and sheet. SABIC Innovative Plastics (www.sabic-ip.com) is a wholly owned subsidiary of Saudi Basic Industries Corporation (SABIC), one of the world's top five petrochemicals manufacturers.

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