Press Release

Solvay High-Performance Polymers Enable High-Precision Custom Extrusions from International Polymer Engineering

International Polymer Engineering sees growing demand for advanced polymers in microtubing, monofilaments and profiles

ANAHEIM, Calif., Feb. 10, 2015 – International Polymer Engineering (IPE), a leading custom extruder of thermoplastic tubing and profiles based in Tempe, Ariz., introduced today a broad, new range of high-precision microbore tubing, monofilaments and profiles made of high-performance thermoplastics from Solvay Specialty Polymers. These innovative products offer advanced solutions for medical, aerospace, military and industrial applications. IPE unveiled the new product line at the Medical Design & Manufacturing (MD&M) West show (Booth #2112), which runs here from Feb. 10-12. Solvay is also here (Booth #1906), showcasing its broad selection of high-performance medical-grade polymers for medical devices.

IPE has seen growing customer demand for extrusions made of high-performance thermoplastics due to their ease of manufacturing and strong property profile. In particular, the company has seen a major shift toward replacing metals and thermoset materials with advanced thermoplastics in medical applications, according to Jonathan Jurgaitis, melt extrusion manager for IPE.

“Based on the demand from our customers, it’s clear that these high-performance materials have a strong track record, and the industry is familiar with them as a viable option for a range of applications,” Jurgaitis said. “IPE has worked closely with Solvay by tapping into their technical expertise to develop custom products that meet the stringent requirements of demanding end-use applications in the medical, aerospace, and military industries.”

IPE chose Solvay’s sulfone polymers due to their excellent clarity, stiffness and steam sterilizability. Specifically, IPE used Solvay’s Udel® polysulfone (PSU) resin to fabricate 0.02-in (0.5-mm) monofilaments and Radel® polyphenylsulfone (PPSU) resin to make 0.06-in (1.524-mm) and 0.11-in (2.794-mm) monofilaments. It also used Radel® PPSU resin to make 0.50-in (12.7 mm) microbore tubing with outer diameter (OD) of 0.012-in and inner diameter (ID) of 0.010-in (0.3048-mm OD x 0.254-mm ID).

IPE has also increasingly put Solvay’s Spire® Ultra Polymers to use due to the broad benefits of these materials, including high stiffness and hardness, and excellent resistance to chemicals and high temperatures. For example, IPE fabricates microtubes made from Solvay’s KetaSpire® polyetheretherketone (PEEK) resin that deliver greater strength and rigidity than polytetrafluoroethylene (PTFE) microtubes, and they are easier to work with compared to those made of stainless steel. These microtubes target a range of medical applications including catheters, endoscopic working channels, and laparoscopic instruments. KetaSpire® PEEK is one of the industry’s most chemically resistant polymers that offers excellent strength, superior fatigue resistance, and a continuous-use temperature of 240°C (464°F). IPE now uses it to make a range of microfilament sizes, as well as microbore tubing with 0.012-in OD x 0.010-in ID (0.3048-mm OD x 0.254-mm ID).

IPE also used Solvay's AvaSpire® polyaryletherketone (PAEK) resin, a versatile family of polymers tailored to provide new and unique combinations of performance and value, to extrude 0.06-in (1.75-mm) monofilaments. The company further introduced 0.06-in (1.524-mm) monofilaments made of Solvay's Torlon® polyamide-imide (PAI) resin, which offers the highest strength and stiffness of any thermoplastic up to 275°C (527°F). Additional monofilaments are fabricated with Solvay's PrimoSpire® self-reinforced polyphenylene (SRP) resin, one of the stiffest and strongest unreinforced polymers in the world. Solvay's Halar® ethylene chlorotrifluoroethylene (ECTFE) resin, a partially fluorinated, melt-processable polymer, is also specified by IPE for 0.06-in (1.524-mm) monofilaments due to its excellent chemical resistance and lubricity.

IPE specializes in custom extruded profiles, tube, sheet, and rod made of nylon, PTFE, polyurethane, polycarbonate, and other thermoplastics for the medical, lighting, and industrial markets. The company is able to achieve its products' small diameter sizes by finding an optimal balance between line speed, processing temperature and appropriate tooling and drawdown ratio.

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About International Polymer Engineering
International Polymer Engineering (IPE), Tempe, Ariz., provides high-quality design, engineering and manufacturing services for the production of custom profile extrusions made from porous polytetrafluorothylene (PTFE) and a variety of melt thermoplastic materials. The company uses the latest in polymer technology and automated extrusion techniques to reduce cost and shorten lead times for the manufacture of small-diameter tubing. IPE uses PTFE, FEP, nylon, polyurethane, and other thermoplastics to extrude materials to customer established specifications for medical, lighting, and industrial applications. For more information, visit www.ipeweb.com.

About Solvay Specialty Polymers
Solvay Specialty Polymers manufactures over 1500 products across 35 brands of high-performance polymers – fluoropolymers, fluoroelastomers, fluorinated fluids, semi-aromatic polyamides, sulfone polymers, aromatic ultra-high performance polymers, high-barrier polymers and cross-linked high-performance compounds – for use in Aerospace, Alternative Energy, Automotive, Healthcare, Membranes, Oil and Gas, Packaging, Plumbing, Semiconductors, Wire & Cable, and other industries. Learn more at www.solvayspecialtypolymers.com.

As an international chemical group, Solvay (www.solvay.com) assists industries in finding and implementing ever more responsible and value-creating solutions. Solvay generates 90% of its net sales in activities where it is among the world's top three players. It serves many markets, varying from energy and the environment to automotive and aeronautics or electricity and electronics, with one goal: to raise the performance of its clients and improve society's quality of life. The group is headquartered in Brussels, employs about 29,400 people in 56 countries and generated 9.9 billion euros in net sales in 2013. Solvay SA (**SOLB**) is listed on NYSE Euronext in Brussels and Paris (Bloomberg **SOLB:BB** – Reuters: **SOLB.BR**.

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International Polymer Engineering (IPE) introduced a broad, new range of high-precision microbore tubing, monofilaments and profiles for medical, aerospace, military and industrial applications. The high-precision custom extrusions are made of high-performance thermoplastics from Solvay Specialty Polymers.

(Photos courtesy Solvay)