

Advanced Sensor Technologies Chooses Solvay's New Veradel® HC A-301 PESU to Replace PEI in Highly Durable Sensors for Demanding Healthcare Applications

Alpharetta, Ga., Feb. 10, 2016 – Solvay Specialty Polymers, a leading global supplier of high-performance thermoplastics, announced today that its new healthcare-grade polymer, Veradel® HC A-301 polyethersulfone (PESU), is helping to enable a new line of extremely durable sensor products for medical and biopharma applications from Advanced Sensor Technologies Inc. (ASTi), an industry-leading designer of laboratory, medical and industrial electrochemical sensors.

Available in a range of sizes, ASTi's new liquid analytic sensor design seals sensitive electronics safely inside an internal plastic sleeve that is fitted within an outer sleeve – also made of plastic – which houses the electrochemical sensor components. ASTi evaluated Veradel® HC A-301 PESU in molding trials to form inner sleeve components where it found Solvay's material helped address moldability, cost and thermal cycling issues posed by an incumbent polyetherimide (PEI) grade.

Specifically, ASTi found Solvay's comparatively high flow PESU enables the design of family molds that produce very little waste, and allows molding of selective parts with flip gates. Veradel® HC A-301 PESU's superior flowability also permitted the design of thinner walls, more complex shapes and different cross sections within finished parts. Its high transparency further facilitated final assembly of integrated parts.

ASTi engineers favor bound and press-fitted parts vs. less reliable washers and O-rings to seal the sensors. Consequently, the comparatively similar thermal expansion rates between Veradel® HC A-301 PESU and the polymer specified for the outer sleeve of the sensor also helped minimize strain on these critical seals during thermal cycling. Solvay's healthcare-grade PESU offers a continuous use temperature up to 204°C (399°F), which can potentially contribute to more durable sensors and components.

"Based on our molding tests, Solvay's Veradel® HC PESU is now the polymer of choice for designs targeting medical and biopharma applications, as well as industrial and laboratory electrochemical products," said Martin Patko, president and founder at ASTi. "Solvay's high-flow polymer delivers more cost-effective processing options, improved mechanical performance and higher transparency than the PEI grade we had previously used. Further, its biocompatibility along with the availability of a complete Master Access File will help us transition future sensor designs to quickly address applications in the fast-growing healthcare market."

The latest addition to Solvay's healthcare portfolio, the new Veradel® HC PESU grade has been tested under ISO 10993 biocompatibility standards for cytotoxicity, irritation and acute systemic toxicity. It is the first PESU polymer for use in medical devices to offer a Master Access File (MAF) on record with the U.S. Food and Drug Administration (FDA). Thus, its selection can help facilitate the regulatory application process for molded components, and speed time to market.

Solvay Specialty Polymers' experience as a reliable materials supplier in the healthcare field spans more than 25 years. The company is a leading manufacturer of polymers for healthcare applications, offering a broad range of high-performance plastics for medical devices, instruments, and equipment. Solvay also offers a family of Solviva® Biomaterials for use in a range of implantable devices. Solvay's Veradel® family of PESU polymers has a long and proven history in food service, membrane filtration and automotive applications.

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About Advanced Sensor Technologies Inc.

Advanced Sensor Technologies, Inc. (ASTI) designs and manufactures highly durable and extremely reliable industrial pH sensors, ORP sensors, ion selective sensors and conductivity sensors for demanding inline process control measurement and monitoring applications. Our portfolio also includes research-grade pH electrodes, ORP electrodes, ion selective electrodes and conductivity electrodes for laboratory testing. And we offer industry-leading product development and research services for OEM manufacturers and resellers who require pH, ORP and ion selective measurements for medical in-vitro and in-vivo applications, as well as industrial inline, immersion and submersible measurement.

About Solvay

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.

An international chemical and advanced materials company, **SOLVAY** assists its customers in innovating, developing and delivering high-value, sustainable products and solutions which consume less energy and reduce CO₂ emissions, optimize the use of resources and improve the quality of life. Solvay serves diversified global end markets, including automotive and aerospace, consumer goods and healthcare, energy and environment, electricity and electronics, building and construction as well as industrial applications. Solvay is headquartered in Brussels with about 30,000 employees spread across 53 countries. In 2014, the company posted pro forma net sales of close to € 12 billion, 90% of which was generated from activities where it ranks among the world's top 3 players. Solvay SA (**SOLB.BE**) is listed on Euronext in Brussels and Paris (Bloomberg: **SOLB.BB** - Reuters: **SOLB.BR**).

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Advanced Sensor Technologies Inc. (ASTi) chose Solvay's latest healthcare-grade polymer, Veradel® HC A-301 NT polyethersulfone (PESU), to innovate a new line of extremely durable electrochemical sensors for medical and biopharma applications. Photo courtesy of ASTi.