

## Medical Illumination Chooses Two High-Performance Solvay Polymers to Innovate Compact New LED Surgical Lighting System

*Solvay's polymers offer a combination of high stiffness for stable lamp placement, and dependable performance after frequent exposure to chemicals and autoclave sterilization*

**ALPHARETTA, Ga., Sept. 22, 2015** – Solvay Specialty Polymers, a leading global supplier of high-performance thermoplastics, announced today that its Udel® polysulfone (PSU) and Radel® polyphenylsulfone (PPSU) medical-grade polymers helped Medical Illumination International, a world-class manufacturer of advanced surgical systems and equipment, to design an innovative, more compact version of its flagship MI-1000 surgical lighting unit. Solvay's high-performance polymers form three injection-molded components in Medical Illumination's new MI-750 LED lighting system: a handle, a handle post and the lamp's yoke attachment. In addition to supporting stable placement of the lamp during surgery, Udel® and Radel® polymers enable the molded components to deliver durable performance after frequent chemical disinfection and steam sterilization.

"Medical Illumination owes its success in this market to the meticulous design and reliable performance of its surgical lighting systems, which dependably meet or exceed the demanding requirements of the operating theater," said Steve Rowey, chief operating officer for Medical Illumination. "Solvay's materials consistently exhibit a high level of quality and performance – from the molding process to the end-use application – which were both critical in enabling us to meet the exacting criteria for our innovative new lamp design."

Medical Illumination designed its MI-750 lamp to provide bright, cool and energy-efficient LED illumination to minimize shadows and improve tissue rendition for exams or minor procedures. Medical Illumination selected California-based Mold Precision Engineering to injection mold the three components fabricated with Solvay's high-performance polymers.

"Solvay's expertise and advanced polymer technology impart a high level of confidence to injection molders," said Peter Minaskanian, president of Mold Precision Engineering. "Their materials process easily, offer value-added options for overmolding and deliver dependable performance from batch to batch. That helps us to reliably produce high quality finished parts and meet our customers' criteria for success."

Medical Illumination uses Solvay's Udel® PSU to form the lamp's handle and the yoke attachment that holds a bearing in place to enable the cantilevered light to pivot. Udel® PSU withstands repeated autoclave cycles up to 121 °C (250 °F) without a significant loss of properties. It also complies with the American National Standards Institute autoclave standard AAMI-SSSA-1988 for steam sterilization in healthcare facilities.

Udel® PSU's high stiffness and dimensional stability were important performance criteria for the yoke attachment. These properties ensure that the part applies a precise amount of pressure on the bearing it encloses, allowing the lamp to pivot freely, yet remain stable when released. In addition, Udel® PSU provides strong chemical resistance, as the yoke must be cleaned frequently with stringent disinfectants that can degrade lower performing polymers.

For the 102-mm (4-in) handle post of the MI-750 lamp, Medical Illumination chose Solvay's Radel® PPSU for its ability to improve the impact strength and stiffness of the part while also offering better resistance to chemical sterilants vs. polycarbonate, which had not performed adequately in earlier lamp designs.

Further, Udel<sup>®</sup> PSU and Radel<sup>®</sup> PPSU both supported Medical Illumination's need to color match the injection-molded parts to the powder-coated Polar White palette of its new lighting system.

"Solvay's broad portfolio of advanced, medical-grade polymers offer a versatile toolbox of solutions for forward-looking designers like Medical Illumination," said Dane Waund, global healthcare market manager for Solvay Specialty Polymers. "Our advanced materials reliably meet demanding performance criteria to give our global healthcare customers the confidence they need to innovate more freely."

Solvay Specialty Polymers is a global leader in the development of sulfone polymer technology and, for 25 years, has been a key supplier of these and other medical-grade polymers for the healthcare field. The company is a leading manufacturer of high-performance healthcare plastics, offering a broad range of advanced medical-grade plastics for devices, instruments and equipment. Solvay also offers a family of Solviva<sup>®</sup> Biomaterials for use in a range of implantable devices.

Solvay is showcasing Udel<sup>®</sup> PSU, Radel<sup>®</sup> PPSU and other high-performing bio-medical grade polymers at Medical Grade Polymers 2015, which runs from Sept. 15-16 in Woburn, Mass.

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#### About Medical Illumination International

Medical Illumination International, established in 1978, is one of the world's premier manufacturers of medical lighting equipment, operating room tables, equipment management systems, and advanced, high-definition video integration, which are all sold through medical equipment and supply distributors worldwide. The company's product range covers the complete spectrum of lighting for surgery, emergency procedures, examination and specialty uses, along with video monitor and camera models, surgery tables, and equipment pendants. For more information, visit [www.medillum.com](http://www.medillum.com).

#### About Mold Precision Engineering Inc.

Mold Precision Engineering specializes in the manufacture of high-temperature engineered thermoplastic and thermoset plastic components. The ISO 9001 registered company utilizes injection molding, compression molding, and transfer molding to consistently produce millions of custom, high-quality, high-tolerance plastic parts each year. Clients range from aerospace contractors to small manufacturers with part runs ranging from several hundreds to millions each year. For more information, visit [www.moldprecision.com](http://www.moldprecision.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](http://www.solvayspecialtypolymers.com).

As an international chemical group, **SOLVAY** 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 26,000 people in 52 countries and generated 10.2 billion euros in net sales in 2014. Solvay SA (**SOLB.BE**) is listed on **NYSE Euronext** in Brussels and Paris (Bloomberg: **SOLB:BB** - Reuters: **SOLB.BR**).

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Solvay Specialty Polymers' Udel<sup>®</sup> polysulfone (PSU) and Radel<sup>®</sup> polyphenylsulfone (PPSU) medical-grade polymers helped Medical Illumination International, a world-class manufacturer of advanced surgical systems and equipment, to design its compact MI-750 LED lighting unit. Photo courtesy Medical Illuminations.