

Solvay Radel® PPSU Enables Morphix to Improve Lifetime and Performance for its Redesigned Ergonomic Tattoo Grips

A proven alternative to metal, the injection-moldable polymer reduced the weight of Morphix's grips by over 60 percent and significantly lowered manufacturing costs.

ALPHARETTA, Ga., June. 9, 2015 – Solvay Specialty Polymers, a leading global supplier of high-performance thermoplastics, announced today that Morphix Inc., an innovative designer and manufacturer of tattoo equipment, chose Solvay's Radel® polyphenylsulfone (PPSU) resin to pioneer lighter, longer lasting designs for its innovative Humbolt® and Flatiron® tattoo needle grips.

Morphix designed its grips to help relieve the pain and discomfort associated with repetitive-use stress injuries that tattoo artists often experience. As an alternative to conventional metals, Solvay's tough, injection-moldable Radel® PPSU resin enabled the company to affordably develop light-weight grips with more ergonomic contours and surface textures and to offer grips in a wider selection of colors.

"Tattoo artists' hands take a beating," said Todd Myers, Morphix president and chief executive officer. "Between the heavy equipment, constant vibration and repetitive motion, many artists battle with wrist and digital pain throughout their career. Our redesigned grips are a lot lighter and more comfortable than standard metal grips, and they give artists better control."

The first manufacturer to make a sterilizable, injection-molded tattoo grip, Morphix had long sought to extend the lifetime of its products. To this end, the company sampled several materials since introducing its grips in 2008, including polysulfone polyethylenimine, polyethersulfone, polyoxymethylene, polybutylene terephthalate and polyphenylene sulfide in different ratios and with different fillers. Yet, despite all of its labor- and cost-intensive testing, the best performance that earlier models of the Humbolt® and Flatiron® grips could achieve was 250 sterilization cycles before failure modes started to appear. In addition, the costs to manufacture these same grips out of aluminum priced Morphix out of the market. Then, the company tested Solvay's Radel® PPSU material.

"We've never seen a thermoplastic material perform as well in stress testing as Radel® PPSU," said Myers. "Each grip design integrates two sets of metal threads to which we simultaneously applied 75 ft.lbs. (101.7 N-m) of torque without observing any cracking or breakage. The tensile strength for Radel® PPSU is off the charts for our product. No other material came close. Equally important, we reached a milestone of 1,000 sterilization cycles under load."

Myers added that Radel® PPSU will not only allow Morphix's redesigned grips to last four times longer than earlier designs, it will also help them maintain their aesthetics longer in the tattoo parlor's unforgiving environment of dried ink, blood, harsh surface disinfectants and the daily rigors of steam-heat sterilization.

Solvay Specialty Polymers is a global leader in the development of sulfone polymer technology, launching Udel® polysulfone 50 years ago. In addition, Solvay's experience as a reliable materials supplier in the healthcare field spans more than 25 years. The company is a leading manufacturer of healthcare plastics, offering a broad range of high-performance medical-grade plastics for devices, instruments, and equipment. Solvay also offers a family of Solviva® Biomaterials for use in a range of implantable devices.

Solvay is showcasing Radel® PPSU and other high-performing polymers in booth 1661 at the MD&M East 2015 exhibition, which runs from June 9-11 at the Jacob K. Javits Convention Center in New York, NY.

Humbolt and Flatiron are registered trademarks of Morphix Inc.

About Morphix Inc

Morphix is a design manufacturing company serving the tattoo industry since 2008, and has a market presence in over 30 countries. The company is focused on creating products with innovative designs and unique features which add value for tattoo artists. In addition to re-launching their core product, tattoo grips, they're also introducing a disposable in 2015 and have several other products in development. For more information, visit www.morphixtattoo.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** 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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Radel[®] PPSU resin enabled Morphix to mold longer lasting ergonomic tattoo grips. Photos courtesy Solvay SA.