Press release

FITBIONIC's New Prosthetic Foot Uses Solvay's Torlon® PAI for Key Bearing Components

Ultra-High Performance Polymer Provides Strength, Toughness, and Wear Resistance in Highly Demanding Load-Bearing Application

ALPHARETTA, Ga., March 11, 2014 – FITBIONIC Inc., Boulder, Colo., an upstart developer and manufacturer of next-generation prosthetic technology, has launched its first product – an innovative prosthetic foot that features high load-carrying bearings made of Torlon® polyamide-imide (PAI) from Solvay Specialty Polymers. The ultra-high performance thermoplastic delivers long-term strength and stiffness along with exceptional wear and fatigue resistance in this highly demanding load-bearing application.

The FITBIONIC prosthetic foot, developed specifically for lower-activity and diabetic amputees who comprise more than 80% of the U.S. amputee population, utilizes Active Stability™ technology to help wearers feel more stable and potentially prevent injuries while walking. Effortless ground conformance and reduced pressures on the wearer's tissues combine with propulsive energy to deliver the most human-like walking foot commercially available, according to Jerome Rifkin, chief technology officer and founder of FITBIONIC.

The prosthetic foot assembly includes a lubricious, nickel-plated aluminum axle that rides on and between two bearings made of Torlon® PAI, thus providing multi-axial motion. The 0.75 x 0.50 x 0.5 in. (1.9 x 1.3 x 1.3 cm) bearings are machined from Torlon® PAI plate stock. FITBIONIC may potentially switch to injection molding Torlon® PAI bearings to handle larger production volumes since Torlon® PAI offers the flexibility to convert the application.

"Patients put our Torlon® PAI components through demanding situations and varying loads for years of hard wear," said Rifkin. "Torlon® PAI is strong and tough enough to withstand those forces reliably and consistently."

Torlon® PAI provides the highest strength and stiffness of any thermoplastic up to 275°C (525°F). It has outstanding resistance to wear, creep, and chemicals and is ideally suited for severe service environments. Rifkin said Torlon® PAI exhibits exceptional bearing properties (fatigue resistance and compressive strength), resulting in long-lasting performance. It also yields a stable tribological interface by virtue of its strong mating and compatibility to a receptacle made of polyetheretherketone (PEEK).

Torlon® PAI exhibits metal-like performance and is routinely specified for precision components used in repetitive-use, load-bearing operations. The material's exceptional wear resistance withstands the forces of walking that are projected on the bearing's 0.5-in. (1.3-cm) wide surface without any material loss or non-uniform wear.

FITBIONIC offers the new prosthetic foot for body weights up to 250 lb (113 kg). The company currently sells the prosthetic device to prosthetists throughout the U.S.

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About FITBIONIC

FITBIONIC Inc. is a consumer-centered prosthetics company with a first-in-industry focus on cultivating healthy lifestyles for amputees. Founded in Boulder, Colo., the company combines designers, technologists, and entrepreneurs from leading bionics and prosthetics companies. Development of FITBIONIC's feet was supported by a $1.2 million grant from the National Institutes of Health, and the foot has garnered multiple design awards and national recognition. For more information, visit www.fitbionic.com.

About Solvay Specialty Polymers

Solvay Specialty Polymers (www.solvayspecialtypolymers.com) is a leading global supplier of high-performance thermoplastics for permanent and prolonged exposure implants and limited exposure devices. The company has expanded its focus on the healthcare industry to meet the growing needs of its global customers by providing global technical and regulatory support. Solvay is building on its 25-year history as a key material supplier in the healthcare field, devoting considerable new resources to help customers be more efficient and cut costs. Metal-to-plastic replacement remains a key focus for manufacturers, but increased cost pressures pose a new challenge as the market continues to grow at a double-digit pace. Solvay also continues to devote considerable research and development activities to polymer technology and commercialization of new and unique material options for medical OEMs and processors.

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 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 and Cable, and other industries. Learn more at www.solvay.com.

Solvay (www.solvay.com) is an international chemical Group committed to sustainable development with a clear focus on innovation and operational excellence. It is realizing over 90% of its sales in markets where it is among the top 3 global leaders. Solvay offers a broad range of products that contribute to improving quality of life and the performance of its customers in markets such as consumer goods, construction, automotive, energy, water and environment, and electronics. The Group is headquartered in Brussels and its companies, which employ about 31,000 people in 55 countries, generated EUR 12.7 billion in net sales in 2011 (pro forma). Solvay SA is listed as **SOLB.BE** on NYSE Euronext (www.euronext.com) in Brussels and Paris. Bloomberg (www.bloomberg.com) = **SOLB.BB**. Reuters (www.reuters.com) = **SOLB.BR**.

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