Press Release

Solvay's new Omnix® HPPA long glass fiber grades overcome demanding metal replacement challenges for parts submitted to severe operating environments

BOLLATE, Italy March 13, 2017 – Solvay, a leading global supplier of high-performance materials, is expanding its portfolio of specialty polymers with the introduction of Omnix® LF-4050 and Omnix® LF-4060, two high-performance polyamides (HPPA) with long fiber glass content of 50 and 60 percent respectively. These materials are ideally suited for a realm of applications subjected to permanent load or operating conditions where metal is still prevalent.

Omnix® HPPA is used in applications where the high temperature or hydrolytic stability performance limits of PA66 are reached. The new Omnix® LF grades also overcome these limitations and are an important addition to the existing portfolio of Solvay's high performance polyamides.

Both Omnix® LF-4050 and Omnix® LF-4060 offer cost and performance benefits against metal for components under permanent load or severe operating environments in a wide variety of markets including advanced transportation, automotive, household appliances, sports and leisure, and mechanical and industrial engineering. The new Omnix® LF grades can be obtained in natural and black and are commercially available worldwide.

"Metal substitution has entered a new phase. There is a growing demand for plastics capable of reaching beyond the current performance barriers of optimized short-fiber filled thermoplastics without sacrificing design freedom, processing efficiency and surface quality," explains Dr. Eric Martin, Global Business Development Manager - Long Fiber Thermoplastics at Solvay's Specialty Polymers Global Business Unit. *"LFT technology answers these needs and is today accepted as a viable replacement for metal die castings and assemblies. There is no doubt that applying LFT technology to our Solvay polymer portfolio extends the light-weighting potential of established injection molding materials. This strategy will allow us to meet corrosion and weight reduction challenges for components with very high technical requirements in terms of stiffness retention at elevated temperatures, impact strength and fatigue/creep resistance."*

The LFT technology is characterized by the formation of an entangled, three-dimensional long-fiber skeleton in the finished molded parts. This feature provides a unique combination of stiffness and toughness and outstanding dimensional stability while inhibiting crack propagation.

When comparing the properties of standard reinforced Omnix® products, the ductility of Omnix® LF grades shows up to 350 percent higher notched and multi-axial impact strength while preserving material stiffness. Such gains would be impossible to achieve with conventional impact modified compounds, where the elastomeric nature of the impact modifier generally decreases the stiffness of the material.

Omnix® LF grades also exhibit high property retention under the influence of heat and moisture. When compared with standard glass filled HPPA, the LFT technology offers a stiffness improvement of 10 to 15 percent at 23°C (73°F), which rises to 85 percent at 120°C (248°F), far beyond the glass transition temperature of the matrix resin.

Furthermore, Omnix® LF grades drastically outperform short-fiber HPPA materials in creep resistance under high loads at high temperature, demonstrating the advantages of the entangled long fiber skeleton created within the parts. *"Such benefits for long term performance are of prime importance when developing reliable polymer solutions for permanently loaded components across a wide variety of markets*," adds Dr. Eric Martin. *"Interestingly, both new grades exhibit very low warpage and remain hot-water moldable."*

Solvay is currently applying LFT technology to other specialty polymers including long fiber filled Amodel® polyphthalamide (PPA), Ixef® polyarylamide (PARA), and Ryton® polyphenylene sulfide (PPS), and is thereby proposing a unique range of solutions with high value-added properties while maintaining cost-affordable processing technologies such as injection molding.

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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 & Gas, Packaging, Plumbing, Semiconductors, Wire & Cable, and other industries. Learn more at www.solvayspecialtypolymers.com.

About Solvay

Solvay is a multi-specialty chemical company, committed to developing chemistry that addresses key societal challenges. Solvay innovates and partners with customers in diverse global end markets. Its products and solutions are used in planes, cars, smart and medical devices, batteries, in mineral and oil extraction, among many other applications promoting sustainability. Its lightweighting materials enhance cleaner mobility, its formulations optimize the use of resources and its performance chemicals improve air and water quality. Solvay is headquartered in Brussels with around 27,000 employees in 58 countries. Pro forma net sales were € 10.9 billion in 2016, with 90% from activities where Solvay ranks among the world's top 3 leaders. Solvay SA (SOLB.BE) is listed on Euronext Brussels and Paris (Bloomberg: SOLB.BB - Reuters: SOLB.BR) and in the United States its shares (SOLVY) are traded through a level-1 ADR program.

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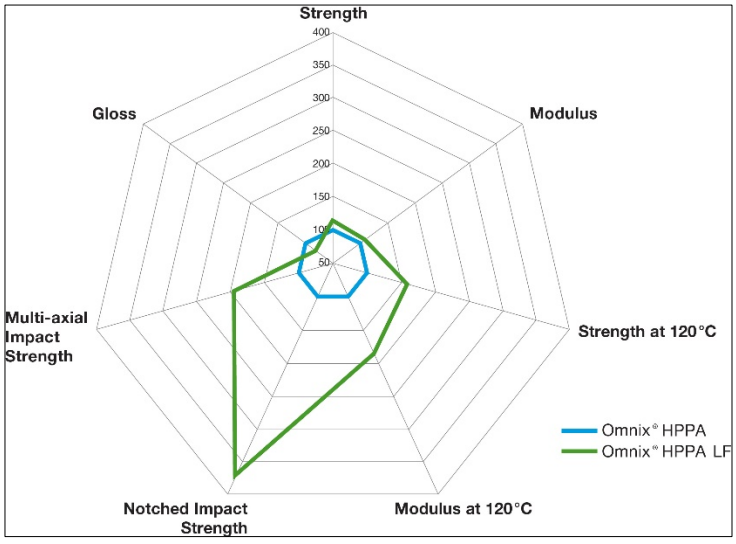

Performances are expressed in percentage of improvement vs. short fiber reinforced Omnix® at same glass fiber loading.

Omnix® long glass fiber high-performance polyamide (LF-HPPA) exhibits significantly enhanced impact strength and stiffness ideal for metal replacement applications. (Graphic courtesy of Solvay)