

## Solvay's High-Performing KetaSpire® PEEK Polymer Chosen for Oil Scavenger Line in Polimotor 2 Automotive Project

*KetaSpire® PEEK's high dimensional stability and compatibility with machining processes cited as critical to the material's selection by Polimotor 2 designers.*

**Alpharetta, Ga., Jan. 26, 2016** – Solvay Specialty Polymers, a leading global supplier of high-performance polymers, announced today that the Polimotor 2 automotive engine project selected a high-performing grade of Solvay's KetaSpire® polyetheretherketone (PEEK) to fabricate an oil scavenger line for the engine's dry sump modular oil pump system. Directed by legendary automotive innovator Matti Holtzberg, the Polimotor 2 project aims to design and manufacture a next-generation, all-plastic engine for competitive automotive racing in 2016. Solvay is one of the primary material sponsors for this highly anticipated technical endeavor.

"Solvay's uniquely broad offering of today's highest performing polymer technologies has helped fuel our continuing success with the Polimotor 2 engine concept," said Holtzberg. "For example, the high mechanical strength and chemical resistance of Solvay's Ryton® polyphenylene sulfide and Amodel® polyphthalamide polymer families offered excellent options for this part. But we selected KetaSpire® PEEK for its compatibility with machining processes and its high dimensional stability."

Allegheny Performance Plastics, LLC, a leading processor of high-performance thermoplastics, machined the 18-in. (45-cm) oil scavenger line from a stock shape available from Texas-based Drake Plastics. The shape was extruded with Solvay's KetaSpire® KT-820 CF30 PEEK, a 30-percent carbon fiber-reinforced grade that retains high modulus and best-in-class fatigue resistance at continuous-use temperatures reaching 240°C (464°F). This is comfortably above the peak oil temperatures in Polimotor 2's dry sump design, which can reach 138°C (280°F).

"Polimotor 2's design for its oil scavenger line required us to machine a much longer than usual thermoplastic part from a stock shape rod," said Greg Shoup, president of Allegheny Performance Plastics. "We found that Solvay's KetaSpire® PEEK machined very nicely in our CNC machining processes, and the finished part was within print tolerance, which allowed it to fit perfectly on the dry sump."

As a class of materials Solvay's semi-crystalline KetaSpire® PEEK polymers also provide excellent high-temperature chemical resistance to fuels, ethylene glycol, automatic transmission fluids and other common engine chemicals.

"KetaSpire® PEEK is one of the highest performing polymers in our automotive portfolio," said Brian Baleno, global automotive business manager for Solvay Specialty Polymers. "The Polimotor 2 project is one of the latest and most innovative showcases for this advanced polymer's outstanding combination of high-temperature mechanical stability and strong chemical resistance. These qualities are also attracting interest in the commercial automotive industry, as well as in aerospace, chemical processing, medical, oil and gas, electrical, electronics, energy and other markets."

The Polimotor 2 project aims to develop an all-plastic, four-cylinder, double-overhead CAM engine that weighs between 138 to 148 lbs (63-67 kg), or about 90 lbs (41 kg) less than today's standard production engine. Holtzberg's groundbreaking program will leverage Solvay's advanced polymer technology to develop up to ten engine parts. In addition to the oil scavenger line, these include a water pump, oil pump components, water inlet/outlet, throttle body, fuel rail and other high-performance components. Besides KetaSpire® PEEK, other Solvay materials targeted for use encompass Amodel® polyphthalamide (PPA), AvaSpire® polyaryletherketone (PAEK), Radel® polyphenylsulfone (PPSU), Ryton® polyphenylene sulfide (PPS), Torlon® polyamide-imide (PAI), and Tecnoflon® VPL fluoroelastomers.

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#### About Allegheny Performance Plastics

A division of Pittsburgh, Pennsylvania-based Allegheny Plastics Inc. Allegheny Performance Plastics has been processing high-performance thermoplastics for technically advanced molded parts since the 1960s. Today we are a leading global supplier of functional thermoplastic parts for use in the transportation and outdoor power equipment industries which require high performance polymers and demanding specifications. Through our internal resources and industry channel partnerships, Allegheny Performance Plastics provides outstanding customer support from initial part design through the rate production stage.

#### 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](http://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 CO<sub>2</sub> 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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The Polimotor 2 automotive engine project selected a high-performing grade of Solvay's KetaSpire<sup>®</sup> KT-820 CF30 polyetheretherketone (PEEK) to fabricate an oil scavenger line for the engine's dry sump modular oil pump system. The 30-percent carbon fiber-reinforced grade retains high modulus and best-in-class fatigue resistance at continuous-use temperatures reaching 240°C (464°F). More importantly, its high dimensional stability prevented the part from bowing during machining operations. Photo courtesy of Solvay Specialty Polymers.