

## **Federal-Mogul Powertrain Launches High-Performance Polymeric Bearing Coating IROX® 2 for Heavy-Duty Applications**

### **Enhanced seizure and fatigue performance, particularly with steel crankshafts**

SOUTHFIELD, Mich., Sept. 6, 2018 /PRNewswire/ -- Following last year's debut of IROX® 2 for light vehicle engine bearings, Federal-Mogul Powertrain is launching its new high performance polymeric coating for heavy-duty applications at the 2018 IAA Commercial Vehicles in Hanover. IROX 2 provides enhanced seizure and fatigue performance, especially with steel crankshafts. It is part of Federal-Mogul's family of IROX technologies which reduce friction, improve efficiency and wear resistance while also enabling the use of lower viscosity oils. IROX 2 is already in series production in light vehicle engines. First heavy-duty projects have been nominated after successful tests.

"IROX 2 extends the working range to fatigue load levels in the region of 100MPa, that traditionally required expensive PVD coated bearings," explained Gian Maria Olivetti, Chief Technology Officer, Federal-Mogul Powertrain. "By reducing friction, the innovative IROX bearing coatings also help our customers to lower fuel consumption and CO<sub>2</sub> emissions. Evaluation using specific in-house developed test rigs showed that the reduction in friction when using IROX-coated bearings is bigger than that obtained by changing from 5W30 to 0W20 oil."

While IROX was developed for crankshafts with a standard surface finish, IROX 2 is intended for crankshafts with extra smooth finish running with thinner oils. Due to its high adaptability, the polymeric coating material provides superior engine running-in characteristics. Compared to aluminium based materials, which are also starting to establish themselves in the heavy-duty sector, both polymer coatings give reduced friction and greater wear resistance. In comparison to IROX, IROX 2 features further enhanced seizure and fatigue performance. This enables Federal-Mogul Powertrain to offer each customer the optimum formulation for their specific application.

"Both coatings, IROX and IROX 2, are available for aluminium and bronze bearing materials for light and heavy-duty engines," said Stefan Rittmann, Director of Technology, Bearings, Federal-Mogul Powertrain. "They are particularly effective in hybrid and start/stop applications that place additional demands on bearings through frequent re-starting. The overlay is a PAI (Polyamide-imide) polymer resin binder containing a number of additives dispersed throughout the matrix. Developing IROX 2 involved modification of the binder system on a molecular level, coupled with subtle changes to the composition. For example, compared to IROX, IROX 2 contains no silicon carbide particles and has a higher content of a synergistic mixture of solid lubricants."

Federal-Mogul Powertrain will exhibit the new IROX 2 polymer coated high-performance bearings for heavy-duty applications, alongside many of its other products at the 2018 IAA Commercial Vehicles in Hanover from 19-27 September, at Booth C30 in Hall 13.

### **About Federal-Mogul**

Federal-Mogul LLC is a leading global supplier of products and services to the world's manufacturers and servicers of vehicles and equipment in the automotive, light, medium and heavy-duty commercial, marine, rail, aerospace, power generation and industrial markets. The company's products and services enable improved fuel economy, reduced emissions and enhanced vehicle safety.

Federal-Mogul operates two independent business divisions, each with a chief executive officer reporting to Federal-Mogul's Board of Directors.

Federal-Mogul Powertrain designs and manufactures original equipment powertrain components and systems protection products for automotive, heavy-duty, industrial and transport applications.

Federal-Mogul Motorparts sells and distributes a broad portfolio of products through more than 20 of the world's most recognized brands in the global vehicle aftermarket, while also serving original equipment vehicle manufacturers with products including braking, wipers and a range of chassis components. The company's aftermarket brands include ANCO<sup>®</sup> wipers; Beck/Arnley<sup>®</sup> premium OE quality parts and fluids; BERU<sup>®</sup>\* ignition systems; Champion<sup>®</sup> lighting, spark plugs, wipers and filters; Interfil<sup>®</sup> filters; AE<sup>®</sup>, Fel-Pro<sup>®</sup>, FP Diesel<sup>®</sup>, Goetze<sup>®</sup>, Glyco<sup>®</sup>, National<sup>®</sup>, Nüral<sup>®</sup>, Payen<sup>®</sup>, Sealed Power<sup>®</sup> and Speed-Pro<sup>®</sup> engine products; MOOG<sup>®</sup> chassis components; and Abex<sup>®</sup>, Ferodo<sup>®</sup>, Jurid<sup>®</sup> and Wagner<sup>®</sup> brake products and lighting.

Federal-Mogul was founded in Detroit in 1899 and maintains its worldwide headquarters in Southfield, Michigan. The company employs nearly 55,000 in 24 countries. For more information, please visit [www.federalmogul.com](http://www.federalmogul.com).

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