

## **New bearings from MAHLE help to decrease emissions**

- New polymer coating increases the resilience of bearings and reduces their friction
- Bearings can therefore withstand increased loads from emission control measures such as stop-start systems, hybrid operation, or coasting function

Stuttgart, April 16, 2019 – Thanks to a new polymer coating, MAHLE is extending the service life of bearings by reducing friction and increasing seizure resistance while simultaneously improving the boundary lubrication properties. Bearings are found on the connecting rods, crankshafts, and camshafts in combustion engines and are put under increasingly high loads due to emission control measures.

The new polymer coating with melamine cyanurate recently developed by MAHLE improves the characteristics of bearings in combustion engines. Melamine cyanurate has unique lubrication properties thanks to its low friction coefficient on account of its multilayered structure. This enables a quicker transition of the bearing to a hydrodynamic lubrication region. At the same time, melamine cyanurate has a high thermal stability, enabling it to ensure a more robust operation of the bearing under conditions of inadequate lubrication. This allows a 20 percent increase in the load limit at which the bearing shell starts to seize. The new bearings can therefore easily withstand the elevated loads that increasingly arise in the course of an engine's life due to emission control measures such as the use of stop-start systems and hybrid or coasting operation. The significantly higher performance parameters were demonstrated in exhaustive bench and engine tests.

“The new polymer coating is a good example of how the continuous optimization of the combustion engine can contribute to reducing emissions,” stated Dr. Andreas Pfeifer, head of

Product Development Engine Systems and Components at MAHLE.

As part of its dual corporate strategy, MAHLE is constantly driving forward the optimization of the combustion engine, which, for the coming years, it sees as an important element in the environmental and economic viability of the drive mix of the future. At the same time, MAHLE is accelerating e-mobility and working on solutions to make electric vehicles affordable and suitable for everyday use.

**About MAHLE**

MAHLE is a leading international development partner and supplier to the automotive industry as well as a pioneer for the mobility of the future. The group's product portfolio addresses all the crucial issues relating to the powertrain and air conditioning technology—both for drives with combustion engines and for e-mobility. In 2017, the group generated sales of approximately EUR 12.8 billion with about 78,000 employees and is represented in more than 30 countries with 170 production locations.

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