

MAHLE develops new generation of thermally insulating piston coatings

- Coatings reduce the piston's heat input
- Increased exhaust gas temperature allows more energy to be extracted via waste heat recovery systems
- Faster heating of the exhaust gas aftertreatment system improves emissions behavior

Stuttgart, September 4, 2018 – A new generation of MAHLE piston coatings is being developed with the purpose of increasing efficiency and minimizing emissions. These coatings are intended to guide and reduce the heat entering the pistons. This initially reduces the demand for piston cooling, and the increased exhaust gas temperature allows a higher quantity of energy to be extracted by waste heat recovery (WHR) systems. At the same time, the higher exhaust gas temperature permits faster heating of the exhaust gas aftertreatment system following the cold start. The resulting decrease in NO_x emissions makes it easier to comply with current and future legislation.

MAHLE achieves additional positive effects by optimizing the piston galleries—for instance, the MonoLite[®] piston with its kidney-shaped cross section. This allows a temperature reduction of up to 20 kelvin without any negative impact on the aging process of the oil used. The combination of reduced oil flow and a small compression height helps to minimize friction and fuel consumption.

MAHLE is securing the future of the combustion engine

In the commercial vehicle sector, the diesel engine will remain the dominant drive source for the foreseeable future, despite increasing diversification of the powertrain. This makes it even more important to continuously develop the diesel engine in order

to reduce emissions and operating costs. Thanks to its holistic systems competence, MAHLE is able to tap new savings potential where no further improvement is possible at component level.

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 MAHLE Group is committed to making transportation more efficient, more environmentally friendly, and more comfortable by continuously optimizing the combustion engine, driving forward the use of alternative fuels, and laying the foundation for the worldwide introduction of e-mobility. 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. MAHLE products are fitted in at least every second vehicle worldwide. Components and systems from MAHLE are also used off the road—in stationary applications, for mobile machinery, rail transport, as well as marine applications.

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. At 16 major research and development centers in Germany, Great Britain, Luxembourg, Spain, Slovenia, the USA, Brazil, Japan, China, and India, around 6,100 development engineers and technicians are working on innovative solutions for the mobility of the future.

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