

PRESS RELEASE

A NEW ERA FOR VEHICLE EMISSIONS CONTROL STARTS TODAY

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Today sees the entry into force of two new European emissions Regulations that will deliver cleaner cars¹ and more reliable CO₂ emissions and fuel consumption data.

Real Driving Emissions: Effective emissions control under more realistic driving conditions

From today, certification of cars introduced to the European market for the first time includes Real Driving Emission (RDE) measurement with new Not-To-Exceed emissions limits which must be met while driving on the road.

Diesel NO_x emissions controlled during real-world driving

As of today all new car types, including diesel vehicles, have to comply with stringent regulation for nitrogen oxide (NO_x) emissions during real driving. On road NO_x emissions are now capped at 2.1 times the Euro 6 limit and this will be lowered to 1.5 by January 2020. RDE requirements make sure deNO_x aftertreatment technologies, including Selective Catalytic Reduction (SCR) systems and NO_x traps, are used correctly².

Also, as of today, car manufacturers have to declare maximum Conformity Factors (CF³) for each new car type providing for an incentive to manufacturers to market even cleaner vehicles. Air Quality modelling has shown that the new RDE requirements are expected to deliver air quality benefits for citizens, EU Member States, and local authorities.

Ultrafine particles close to zero in real-world

The Euro 6 limit for Particle Number (PN) emissions now has to be met not only in the laboratory, when the car is tested on a roller chassis-dynamometer, but also on the road with a cap of 1.5 times the Euro 6 limit. This will ensure emissions of ultrafine particles from Diesel and Gasoline Direct Injection (GDI) vehicles⁴ are reduced to close to zero level in real-world.

The PN limit for GDI vehicles will also be the same as for diesel for the first time. To meet that challenge, a new technology – the Gasoline Particulate Filter (GPF) – has been developed for GDI cars and is introduced to the market with the entry into force of RDE requirements for PN. AECC has demonstrated⁵ that for vehicles tested with either DPF or GPF, the Euro 6c PN limit (6x10¹¹ particles/km) is met during on-road driving, even under severe driving conditions and low ambient temperatures.

WLTP: more robust CO₂ emissions and fuel consumption information

Also from today onwards new car types will be certified in the laboratory using the “Worldwide-harmonized Light vehicle Test Procedure” (WLTP) for the measurement of CO₂ emissions, fuel consumption and tailpipe pollutant emissions. WLTP replaces the now outdated NEDC (New European Driving Cycle) procedure developed in the 1980s.

The WLTP drive cycle has been designed with a more realistic dynamic driving pattern and reaches higher speed than the NEDC. Nevertheless, the core of the improvement with the WLTP lies in the procedure itself. The road load determination procedure is improved with reduced margins ensuring vehicles are certified under conditions closer to those found in-use on the road. The vehicle test mass in WLTP reflects the actual mass of the individual vehicle rather than the mass of a basic vehicle as the NEDC. Preconditioning of the vehicle is also improved with e.g. prohibition of external recharging of the battery before the test and a test at 14°C is also included to account for EU-average temperature conditions.

References:

- ¹ The date of application for new light-commercial vehicles (vans) types is 1 September 2018.
- ² Diesel vehicles: the newer, the cleaner, AECC industry opinion, April 2017, www.aecc.eu/wp-content/uploads/2017/05/170421-AECC-Industry-Opinion-Clean-Diesel.pdf.
- ³ Conformity Factor is the ratio of the Not-To-Exceed emissions to the Euro 6 regulatory limit.
- ⁴ Particle emissions from indirect injection gasoline engines are not regulated under Euro 6 Regulation.
- ⁵ AECC position on third Real-Driving Emissions (RDE) regulatory package, 1 December 2016, www.aecc.eu/wp-content/uploads/2016/12/161201-AECC-updated-position-paper-on-RDE-package-3.pdf.

AECC is an international non-profit scientific association of European companies engaged in the development, production and testing of catalyst and filter-based technologies for vehicle and engine emissions control. This includes the research, development, testing and manufacture of autocatalysts, substrates and speciality materials incorporated into the catalytic converter and filter and catalyst-based technologies to control engine emissions. Members' technology is incorporated in the exhaust emission control systems on new cars, commercial vehicles, buses, non-road mobile machinery and motorcycles in Europe.

More information on AECC can be found at www.aecc.eu.

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