



Vehicle wind tunnel at the University of Stuttgart certified for WLTP measurements

Mapping road travel without coastdown tests

The wind tunnel at the University of Stuttgart is the first wind tunnel in Germany to be certified to carry out aerodynamic measurements within the context of the new WLTP cycle. The air resistance forces (C_w values) measured in the wind tunnel at the Institute for Internal Combustion Engines and Automotive Engineering at the University of Stuttgart can thus be used to measure emissions according to the WLTP driving cycle.

Since the introduction of uniform EU exhaust emission regulations, the emissions and energy consumption of a motor vehicle have been measured using a standardised procedure on the basis of a standardised driving cycle in the test stand. From September 2017, the previously used, heavily criticised New European Driving Cycle (NEDC) will be replaced by the WLTP measuring method (Worldwide Harmonized Light Duty Test Procedure), which is expected to be more realistic.

University Communications

Head of University Communications and Press Spokesperson
Dr. Hans Herwig Geyer

Contact

T 0711 685-82555
hkom@uni-stuttgart.de
www.uni-stuttgart.de



Re-opening of the wind tunnel 2014. Photo: FKFS / Jürgen Wittke



Not only has the driving cycle itself been adapted to now cover more driving situations and different driving behaviour, but also the measuring procedure. Under the framework conditions of relevance to the measurement, driving resistances, especially air resistance, play a major role. In order to capture the measurement data required for this, the air resistance of a vehicle previously had to be determined using very complex coastdown measurements. This can now be done far more easily and with much better repeatability using measurements taken in a wind tunnel certified for this purpose as the University of Stuttgart.

Contact:

Armin Michelbach, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart, e-mail: armin.michelbach@fkfs.de; Tel. 0711 685-63110